

**Finding of No Historic Properties Affected
for the
Issuance of Commercial and Research Leases within the New York Bight Wind Energy Areas
and
Issuance of Right-of-Way and/or Right-of-Use and Easement Grants on the Outer Continental
Shelf Offshore New York, New Jersey, and/or Rhode Island**

August 30, 2021

Finding

The Bureau of Ocean Energy Management (BOEM) has made a Finding of No Historic Properties Affected (Finding) for this undertaking, pursuant to 36 Code of Federal Regulations (CFR) § 800.4(d)(1). The Finding will be met through BOEM’s inclusion of lease and grant stipulations requiring lessees/grantees to avoid any potential historic properties identified through their high-resolution geophysical surveys during the conduct of ground-disturbing activities associated with site characterization activities.

Documentation in Support of the Finding

I. Description of the Undertaking

Summary

This document describes BOEM’s compliance with Section 106 of the National Historic Preservation Act (NHPA) and documents the agency’s Finding for the undertaking of issuing commercial and research leases within the New York Bight Wind Energy Areas (WEAs) and granting rights-of-way (ROWs) and rights-of-use and easement (RUEs) in the region. BOEM has prepared this documentation in support of the Finding, following the standards outlined in 36 CFR § 800.11(d) and as fulfillment of Stipulation I of the [New York and New Jersey Programmatic Agreement](#) and the recitals of the [Massachusetts and Rhode Island Programmatic Agreement](#). This Finding and supporting documentation are being provided to the entities that have agreed to be consulting parties for the undertaking (see the *Consultation with Appropriate Parties and the Public* section below). This Finding and supporting documentation will be made available for public inspection by placement on BOEM’s public website prior to the bureau approving the undertaking.

Federal Involvement

The Energy Policy Act of 2005, Pub. L. No. 109-58, added Section 8(p)(1)(C) to the Outer Continental Shelf (OCS) Lands Act (OCSLA). This new section authorized the Secretary of the Interior to issue leases, easements, or ROWs on the OCS for the purpose of renewable energy development, including wind energy development (see 43 United States Code [U.S.C.] § 1337(p)(1)(C)). The Secretary delegated this authority to the former Minerals Management Service, now BOEM. Final regulations implementing the authority for renewable energy leasing under the OCSLA (30 CFR Part 585) were promulgated on April 22, 2009.

On March 29, 2021, BOEM announced that it completed the Area Identification process to delineate WEAs in the New York Bight, pursuant to 30 CFR § 585.211(b) by issuing an [Area Identification Memorandum](#) (Appendix A). BOEM has determined that issuing commercial or research leases within the New York Bight WEAs and granting ROWs and RUEs within the region

constitute an undertaking subject to Section 106 of the NHPA (16 U.S.C. 470f) and its implementing regulations (36 CFR § 800), and that the subsequent site characterization activities resulting from lease or grant issuance constitute activities that have the potential to cause effects on historic properties.

BOEM has implemented Programmatic Agreements pursuant to 36 CFR § 800.14(b) to fulfill its obligations under Section 106 of the NHPA for renewable energy activities on the OCS offshore New York, New Jersey, and Rhode Island. These agreements have been developed for two primary reasons: first, the bureau’s decisions to issue leases and approve plans (e.g. Site Assessment Plans [SAPs], Construction and Operation Plans [COPs], or General Activity Plans [GAPs]) are complex and multiple; and second, BOEM will not have the results of archaeological surveys prior to the issuance of leases or grants and, as such, will be conducting historic property identification and evaluation efforts in phases (36 CFR § 800.4(b)(2)). The New York and New Jersey Programmatic Agreement was executed June 3, 2016, among BOEM, the State Historic Preservation Officers (SHPOs) of New York and New Jersey, and the ACHP. The Massachusetts and Rhode Island Programmatic Agreement was executed on May 23, 2012, among the SHPOs of Massachusetts and Rhode Island, the Narragansett Indian Tribe, the Mashpee Wampanoag Tribe, and the ACHP.

These agreements provide for Section 106 consultation to continue through both the commercial leasing process or ROW/RUE grant approval process and BOEM’s decision-making process regarding the approval, approval with modification, or disapproval of a lessee’s plans, and will also allow for a phased identification and evaluation of historic properties (36 CFR § 800.4(b)(2)). Furthermore, the agreements establish the process to determine and document the area of potential effects (APE) for each undertaking; to identify historic properties within each undertaking’s APE that are listed in or eligible for listing in the National Register of Historic Places (NRHP); to assess potential adverse effects; and to avoid, reduce, or resolve any such effects through the process set forth in the agreements.

Description of the Wind Energy Areas

The New York Bight WEAs consists of five areas designated as Central Bight, Fairways North, Fairways South, Hudson North, and Hudson South (Figure 1). Table 1 describes the area in square miles of each WEA and the closest distance in nautical miles from each WEA to New York and New Jersey.

Table 1. Description of the New York Bight Wind Energy Areas

Wind Energy Area	Area (Square Miles)	Closest Distance to New York (nautical miles)	Closest Distance to New Jersey (nautical miles)
Central Bight	132.3	38	53
Fairways North	137.9	15	69
Fairways South	37.3	15	45
Hudson North	67.3	21	36
Hudson South	886.8	45	23
Grand Total	1,261.5	--	--

Sources: BOEM 2021a, 2021b

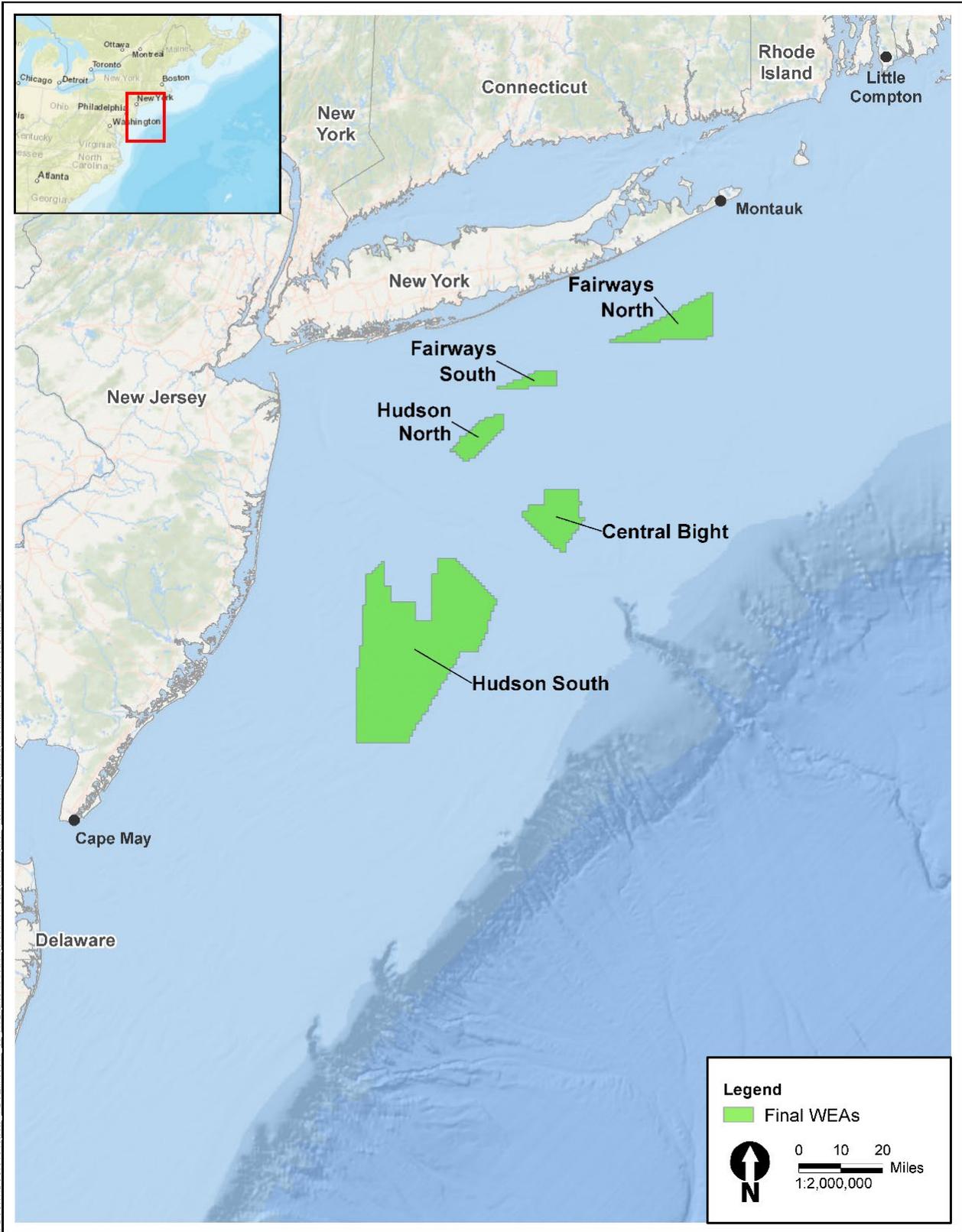


Figure 1. The New York Bight Wind Energy Areas

The Undertaking

The undertaking considered in this Finding includes the proposed issuance of commercial or research leases within the five New York Bight WEAs and granting of ROWs and RUEs in the region and takes into account the execution of associated site characterization activities on these leases or grants. A lessee must submit the results of site characterization surveys with their plans (e.g., 30 CFR § 585.610, § 585.626, and § 585.645). Although BOEM does not issue permits or approvals for these site characterization activities, it will not consider approving a lessee's plan if the required survey information is not included.

Site characterization activities include both high-resolution geophysical (HRG) surveys, which do not involve seafloor-disturbing activities, and geotechnical investigations, which may include seafloor-disturbing activities. Retrieval of lost equipment may occur, as necessary. The purpose of HRG survey is to acquire shallow hazards data, identify potential archaeological resources, characterize seafloor conditions, and conduct bathymetric charting. BOEM anticipates that HRG surveys would be conducted using the following equipment: swath bathymetry system, magnetometer/gradiometer, side-scan sonar, and shallow and medium (seismic) sub-bottom profiler systems. This equipment does not come in contact with the seafloor and is typically towed from a moving survey vessel that does not require anchoring. BOEM does not consider HRG survey to be an activity that has the potential to cause effects on historic properties and this activity is not considered further in this Finding.

Geotechnical testing or sampling involves seafloor-disturbing activities and therefore has the potential to cause effects on historic properties. Geotechnical testing is conducted to assess the suitability of sediments to support a structure or transmission cable under any operational and environmental conditions that might be encountered (including extreme events), and to document soil characteristics necessary for the design and installation of all proposed structures and/or cables. Geotechnical investigation may include the use of equipment such as gravity cores, piston cores, vibracores, deep borings, and Cone Penetration Tests, among others. Some of these methods may additionally require the use of anchored vessels, multi-point anchored barges, or jack-up barges.

BOEM also anticipates cases where geotechnical testing methods may be employed as part of the identification of historic properties. In some instances, direct sampling may be the only available method of testing the presence or absence of horizons of archaeological potential within features of interest identified during geophysical survey. As agreed to by the signatories under Stipulation III of the New York and New Jersey Programmatic Agreement, vibracores or other direct samples collected by or under the supervision of a Qualified Marine Archaeologist for the purposes—at least in part—of historic property identification or NRHP eligibility testing and evaluation are exempt from further Section 106 review.

The undertaking does not, however, include cable installation or connection to shore-based facilities, installation of site assessment equipment, or consideration of commercial-scale wind energy facilities. Should a lessee propose to deploy site assessment equipment within the New York Bight WEAs, they would submit a SAP to BOEM, which BOEM would consider under a separate Section 106 review pursuant to Stipulations II and III of the New York and New Jersey Programmatic Agreement. Should a lessee propose to construct and operate a commercial-scale wind energy facility within the New York Bight WEAs, they would submit a COP to BOEM, which BOEM would consider under a separate Section 106 review. Should a developer propose

installation of a regional backbone transmission system, they would submit a GAP to BOEM, which BOEM would consider under a separate Section 106 review.

Area of Potential Effects

As defined in the Section 106 regulations (36 CFR § 800.16(d)), the APE is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The dimensions of the APE are influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

As agreed to by the signatories under Stipulation I.A of the New York and New Jersey Programmatic Agreement and within the recitals of the Massachusetts and Rhode Island Programmatic Agreement, the APE for this undertaking is defined as the depth and breadth of the seabed that could potentially be affected by seafloor/ground-disturbing activities associated with site characterization activities. The APE for site characterization activities includes the discrete horizontal and vertical areas of the seafloor that may be affected through geotechnical sampling, which may include the collection of core samples, soil borings, or other bottom-disturbing techniques that could directly affect historic properties on or below the seafloor, if present. In addition, geotechnical sampling may also require the use of barges or anchored vessels that could also directly affect historic properties, if present.

Site characterization activities could occur within the extent of the New York Bight WEAs and along corridors that extend from the WEAs to the onshore energy grid, and additionally within the extent of regional backbone transmission systems that may be proposed. It is anticipated these ROW/RUE routes would consist of a minimum 300-meter-wide corridor centered on any anticipated cable locations. Because any ROW or RUE grants considered as part of this undertaking have not been issued, BOEM is uncertain of the exact location of these cable corridor surveys. However, BOEM can anticipate their geographic extent. Power generated from potential New York Bight lease areas would need to be transmitted to shore, either directly from the lease areas by individual export cables to onshore cable landings and/or to offshore regional transmission system(s). Because power may be purchased from nearby states, these potential export cables and regional transmission system(s) are anticipated to be offshore New Jersey, New York, and Rhode Island. Therefore, for the purposes of this undertaking, BOEM estimates that the APE associated with cable site characterization activities would occur within discrete corridors in the region between shore and the New York Bight WEAs as far south as a line drawn between the southwestern corner of the Hudson South WEAs to Cape May, New Jersey and as far north as a line drawn between the northeastern corner of the Fairways North WEA to the eastern edge of Narragansett Bay.

Based on the distance from shore and the minor in scale and temporary manner in which site characterization studies will likely occur, BOEM has concluded that the vessels performing these activities will be indistinguishable from existing lighted vessel traffic from an observer onshore. Therefore, BOEM has not defined as part of the APE onshore areas from which the site characterization activities would be visible. In addition, there is no indication that the issuance of a lease or grant of a RUE or ROW and subsequent site characterization will involve expansion of existing port infrastructure. Consequently, onshore staging activities are not considered as part of the APE for this specific undertaking.

Consultation with Appropriate Parties and the Public

Under Stipulation I.C of the New York and New Jersey Programmatic Agreement and the recitals clauses and Stipulation III of the Massachusetts and Rhode Island Programmatic Agreement, for the undertaking of issuing a commercial lease, BOEM committed to identify consulting parties pursuant to 36 CFR § 800.3(f); consult on existing, non-proprietary information regarding the proposed undertaking and the geographic extent of the APE; and solicit additional information on historic properties within the APE from the consulting parties and the public.

On March 29, 2021, BOEM published an Announcement of WEA Identification for the Commercial Wind Energy Leasing on the OCS in New York Bight. Previously, BOEM had issued a [Call for Information and Nominations](#) on April 11, 2018, and subsequently released Draft WEAs in November 2018. BOEM has engaged with stakeholders through public meetings and the Intergovernmental Renewable Energy Task Force on the New York Bight throughout the process, including holding New York Bight Task Force meetings on December 4, 2017; May 9, 2018; November 28, 2018; April 14, 2021; and April 16, 2021, to introduce the WEAs, provide an overview of the Proposed Sale Notice, and update the Task Force on recent state activities.

BOEM is currently preparing an Environmental Assessment (EA) to consider potential environmental consequences of site characterization activities (i.e., biological, archaeological, geological, and geophysical surveys and core samples) and site assessment activities (i.e., installation of meteorological buoys) associated with issuing wind energy leases in the WEAs. The EA also considers project easements associated with each potential lease issued, and grants for subsea cable corridors in the New York Bight. BOEM held a public review and comment period for the EA, which closed on April 28, 2021. Two comment letters noted that BOEM must comply with Section 106 and National Environmental Policy Act consultation requirements in developing best management practices to avoid, minimize, or mitigate any potential adverse effects on cultural resources. None of the other comments received concerned historic properties, the scope of historic property identification efforts, or any other topic relevant to the Section 106 review of the undertaking that is the subject of this Finding. The Draft EA was published on August 10, 2021.

BOEM initiated Section 106 consultation for the undertaking of issuing a commercial lease and the issuance of ROW/RUE grants within the New York Bight WEAs by sending a letter on May 3, 2021, and e-mail including an electronic copy of the letter on May 14, 2021. BOEM sent this letter to New York SHPO, New Jersey SHPO, Rhode Island SHPO, ACHP, and the following federally recognized tribes: Absentee-Shawnee Tribe of Indians of Oklahoma, Delaware Tribe of Indians, Mashantucket Pequot Tribal Nation, Mohegan Tribe of Connecticut, Narragansett Indian Tribe, Shawnee Tribe, Shinnecock Indian Nation, Stockbridge-Munsee Community, and the Delaware Nation. The list of potential Section 106 consulting parties for the undertaking was developed and included certified local governments, historical preservation societies, museums, and state-recognized tribes, and a letter was sent on May 3, 2021, to over 500 individuals on the list of potential Section 106 consulting parties informing them about the undertaking and inviting them to be an NHPA Section 106 consulting party to the project (Appendix B). These letters, in part, solicited public comment and input regarding the identification of, and potential effects on, historic properties from leasing and site assessment activities for the purpose of obtaining public input for the Section 106 review (36 CFR § 800.2(d)(3)) and to determine their interest in participating as a consulting party (Appendix B). BOEM received requests to become consulting

parties from 36 entities. BOEM shared this Finding in draft form with the consulting parties on July 6, 2021.

BOEM received concurrence on this Finding from the New York SHPO on July 12, 2021, and from the Rhode Island SHPO on August 5, 2021 (Appendix C). No other comments were received on this Finding. Per 40 CFR§ 800.4(d)(1)(i), “If the SHPO/THPO, or the Council if it has entered the section 106 process, does not object within 30 days of receipt of an adequately documented finding, the agency official's responsibilities under section 106 are fulfilled.”

II. Description of the Steps Taken to Identify Historic Properties

As documented in the Programmatic Agreements, BOEM has determined that the identification and evaluation of historic properties will be conducted through a phased approach, pursuant to 36 CFR § 800.4(b)(2), where the final identification of historic properties may occur after the issuance of a lease or grant but before the approval of a plan, because lessees conduct site characterization surveys in preparation for plan submittal.

BOEM has reviewed existing and available information regarding historic properties that may be present within the APE, including any data concerning possible historic properties not yet identified. Sources of this information include consultation with the appropriate parties, including the New York, New Jersey, and Rhode Island SHPOs, and information gathered through BOEM-funded studies.

Relevant BOEM studies include a review of reported shipwrecks in BOEM’s Atlantic Shipwreck Database. The study compiles information on reported shipwrecks in the Atlantic Shipwreck Database and, additionally, models the potential for pre-European contact sites based on reconstruction of sea level rise, human settlement patterns, and site formation and preservation conditions. BOEM’s Atlantic Shipwreck Database does not represent a complete listing of all potential shipwrecks on the Atlantic OCS, but rather serves as a baseline source of existing and available information for the purposes of corroborating and supporting identification efforts.

To date, the New York Bight WEAs have not been subjected to a complete and comprehensive archaeological identification survey; however, the types of historic properties expected to be present within the APE include both submerged pre-contact and historic-period archaeological sites. BOEM also performed file searches within the New York, New Jersey, and Rhode Island SHPOs’ cultural resources databases to identify any known historic properties within the APE from those sources.

Pre-contact Historic Properties

During the Late Pleistocene, at the Last Glacial Maximum (20,000 years before present [B.P.]), the glaciers that covered vast portions of the Earth’s surface sequestered massive amounts of water as ice and lowered global sea level approximately 394 feet (120 meters). Corresponding with lower global sea level during the Late Pleistocene, the section of the OCS where the New York Bight WEAs are located was once exposed, dry land that was subsequently submerged by rising sea levels during the Early Holocene. These once-exposed areas are identified as having a high potential for the presence of now-submerged archaeological sites dating to the time periods during which they were exposed (TRC 2012). While no pre-contact period archaeological sites have been identified on the OCS offshore New York at this time, there are known pre-contact archaeological

sites are onshore in formerly upland locations on western Staten Island (at Port Mobil and Wards Point) (Schuldenrein et al. 2014).

Based on the present understanding of the archaeological record, early human populations developed distinct cultures and lifeways corresponding with three broadly construed periods defined by archaeologists as Paleoindian (circa 15,000 to 10,000 B.P.), Archaic (10,000 to 3000 B.P.), and Woodland (3000 B.P. to 400 B.P.). Paleoindian society was semi-nomadic within a defined territory (TRC 2012) using a broad spectrum of plants and animals for subsistence. Small to medium-sized fauna would have been the predominant focus for game, as the large megafauna (mammoth and mastodon) populations were declining in response to climatic changes (Schuldenrein et al. 2014). The transition to Early Archaic cultures is characterized by nomadic cultures becoming more complex and establishing sedentary societies, whereas the transition to Woodland cultures is based on the development of agriculture (Schuldenrein et al. 2014).

The Paleoindian period was a time of slowly moderating climate with cooler temperatures, increased precipitation, and rapid sea level rise. Several episodes of melting occurred (up to 11,000 B.P.) as a result of the North American ice sheet collapsing (TRC 2012). As the sea level rose and isostatic rebound occurred, smaller drainages were captured and deeply incised drainages formed across portions of the OCS. These drainages formed highly localized productive estuarine environments that would have been utilized for food procurement, fresh water sources, and habitation as the marine transgression continued moving shoreward across the OCS. The enhanced sediment flows in these drainages associated with catastrophic flooding and increased precipitation would have provided localized burial of possible Paleoindian sites, if present, below the transgressive sediment reworking. The only known Paleoindian sites within the region are found onshore in formerly upland locations at Port Mobil and Ward's Point on western Staten Island along the Arthur Kill (Schuldenrein et al. 2014).

By the early Archaic Period (10,000 B.P.), the climate had become warmer with less precipitation. Sea level had risen from 330 feet (100 meters) to 75 feet (23 meters) below present-day levels (Schuldenrein et al. 2014). The 75-foot (23-meter) depth contour is at the westernmost extent of the New York Bight WEAs, indicating that by the early Archaic period the majority of the WEAs had been inundated. Prior to this inundation, the WEAs were likely exposed, dry land, although it would have been proximal to the shoreline and experiencing continued transgression with rapid burial of deeply incised drainages, ponds, or lagoons. By the Middle Archaic, sea level rise would have completely inundated the WEAs and the shoreline would have migrated landward to approximately 33 to 40 feet (10 to 12 meters) below present sea level (Schuldenrein et al. 2014). After inundation, the WEAs would have been exposed to wave- and current-based sediment transport and reworking during the Later Archaic to present day.

Based on sea level rise, the New York Bight WEAs have a high potential for the presence of submerged archaeological sites dating from the Paleoindian through Early Archaic periods, and very low to no potential for the presence of submerged archaeological sites more recent than the end of the Early Archaic.

Historic Period Historic Properties

The waters of the New York Bight OCS are some of the most heavily traveled shipping routes in the country. Every class or type of ship has transited through or operated in the vicinity of the New York Bight WEAs since the 17th century to the present day (Huie 1941; Rattray 1973; Bourque

1979; Morris and Quinn 1989; TRC 2012). As the internal network of canals and rail developed and allowed the movement of goods to and from coastal cities, maritime technologies kept pace, becoming more complex with the advent of steam-, oil-, and internal combustion-powered vessels. An ever-increasing amount of trade developed across the Atlantic, which moved through port cities, such as New York City and Atlantic City. Of all the major ports for coastal and international commerce, none rivaled the Port of New York, which became the economic engine of the developing nation (Huie 1941; Bourque 1979). The volume of shipping that was transiting through the Port of New York from 1710 to 1780 during the Dutch and English colonial periods indicates there were well over 300 vessels transiting the vicinity of the WEAs, and that number grew to more than 1,500 vessels in the 1780s (Bourque 1979).

Later, in the 19th century, from 1821 through 1882, the volume of ships entering the Port of New York grew explosively (Huie 1941). In 1821, 910 foreign ships entered the port, likely crossing the vicinity of the WEAs. By 1882, this number had increased to 4,531 foreign ships (Huie 1941). The reported marine casualties in the Port of New York and the vicinity of the WEAs indicate a growing number of potential shipwrecks (Table 2). This table is not a complete list and represents only those shipwreck events witnessed or reported by survivors.

Table 2. Shipping Losses Reported in New York Waters

Year	Reported Vessel Losses
1600–1650	6
1651–1700	2
1701–1750	3
1751–1800	32
1801–1850	157
1851–1900	514

Source: Rattray 1973

The highest concentrations of reported shipwrecks in this area cluster around shipping channels and uncharted obstructions, as well as the Atlantic side of Long Island where sailing vessels foundered during storms as they tried to enter the port. Other sources put the number of marine casualties along the Atlantic coast at over 15,000 to 20,000 (TRC 2012). Of the entire reported vessel losses, 10 to 20 percent are estimated to have sunk in the open waters of the OCS (TRC 2012). Shipwrecks potentially located in the WEAs could date as far back as the 16th century with ships of discovery, but the bulk of the potential losses is more likely to be from the 19th to mid-20th century.

A search of BOEM’s Atlantic Shipwreck Database revealed that there are 24 shipwrecks reported within the WEAs, 14 of which have dates for sinking (BOEM 2021c). The remaining 10 do not have associated dates (Table 3). One of the 24 is simply identified as an unknown vessel and has no further data to suggest construction, rig, or purpose. Additionally, the precision of the hull locations of the 24 vessels is medium to low, and the reported hulls may be up to 3 miles (4.8 kilometers) from the plotted positions.

Table 3. Shipwrecks Reported in the Vicinity of the New York Bight WEAs

Record	Vessel	Position Accuracy	Year Sunk	History
1201	<i>Delaware</i>	Medium	Unknown	No further information available
705	<i>Mary E. Fish</i>	Low	Unknown	Run down by schooner <i>Frank Harrington</i> , all crew saved
9384	<i>Gulftrade</i>	Low	1942	Tanker; 6,776 GT; torpedoed on 03/10/1942 by U-588
1829	<i>Julia Maria</i>	Low	1863	No further information available
2713	<i>Fingers</i>	Medium	Unknown	No further information available
2436	<i>Jacob Haskell</i>	Medium	Unknown	No further information available
10392	<i>Herbert Parker</i>	Low	1932	24 No. 326; 137 GT; position accuracy 1 to 3 miles
2435	<i>J.H. North</i>	Low	Unknown	No further information available
10443	<i>Corvallis</i>	Low	1925	24 No. 324; Cargo; 2,922 GT; position accuracy 1 to 3 miles
9463	<i>Charles Morand</i>	Medium	1890	No further information available
5734	<i>Kate Tosha (?)</i>	Low	1891	No further information available
10416	<i>R.P. Resor</i>	Medium	1942	No. 3508; Tanker; 7,451 GT; sunk February 26, 1942 by enemy action (U-578)
3139	<i>Vixen</i>	Low	Unknown	No further information available
10282	<i>Huron</i>	Low	1951	24 No. 576; Barge; sunk October 12, 1951 by marine casualty; position accuracy 1 to 3 miles
2650	<i>Cow Wreck</i>	--	Unknown	No further information available
10454	<i>Lillian</i>	Medium	1939	24 No. 347; Cargo, 3,402 GT; sunk February 27, 1939; position accuracy within 1 mile
2965	<i>Phoenix</i>	Medium	1926	3-Mast, 901-ton Schooner; built 1898; sank February 3, 1926
2930	<i>Mud Hole West</i>	Low	Unknown	No further information available
10058	<i>Galley</i>	Low	Unknown	No further information available
1188	<i>Unknown</i>	Low	Unknown	No further information available
512	<i>Heracy D. Taylor</i>	--	1906	Sloop; 15 GT; sank May 27, 1906
10380	<i>Sommerstad</i>	Low	1918	24 No. 1400; Cargo; 3,875 GT; sunk August 12, 1918; position accuracy 3 to 5 miles
2948	<i>Olsen</i>	Low	1961	No further information available
466	<i>Chas E. Morrison</i>	Low	1893	No further information available
7791	<i>Irma C</i>	Medium	Unknown	Identified as <i>Irma C</i>
7815	<i>Florence</i>	Medium	Unknown	Identified as <i>Florence</i>
7706	<i>Three Sisters</i>	Medium	Unknown	Identified as <i>Three Sisters</i>
1533	<i>Burnside</i>	Low	1913	24 No. 8391; schooner; 855 GT; sunk April 20, 1913 by marine casualty; accuracy within 1 mile (1.6 kilometers)
1542	<i>Tarantula</i>	Low	1918	24 No. 120; subchaser; 160 GT; sunk October 28, 1918, by marine casualty; accuracy 1 to 3 miles (1.6 to 4.8 kilometers); recorded April 1, 1923

Record	Vessel	Position Accuracy	Year Sunk	History
7774	<i>Happy Days</i>	Medium	Unknown	Identified as <i>Happy Days</i>
7721	<i>Durley Chine</i>	Medium	Unknown	Identified as <i>Durley Chine</i>
7732	<i>Skippy</i>	Medium	Unknown	Identified as <i>Skippy</i>
7741	<i>Unknown</i>	Medium	Unknown	No further information available

Source: BOEM 2021c

GT = gross tonnage; WEA = Wind Energy Area

A search of the New York, New Jersey, and Rhode Island SHPO databases revealed that there is one known historic resource along the shore that exists within the APE (Table 4) (New York SHPO 2021; New Jersey SHPO 2021; Rhode Island SHPO 2021). Rhode Island SHPO also provided a list of shipwrecks that may exist within the APE, which are not captured in the BOEM Atlantic Shipwreck Database, as listed in Table 4.

Table 4. SHPOs Historic Properties Results within the APE

Source	Name	Notes
RI SHPO	Jamestown Bridge	Sunk in 2001
RI SHPO	<i>Achilles</i>	Iron steam freighter, built in 1870, sank January 6, 1887
RI SHPO	<i>Black Point</i>	Steam powered Collier, sank by U-853 on May 5, 1945
RI SHPO	<i>Bouquet</i>	Barge, sank in 1906
RI SHPO	<i>Essex</i>	Iron steam freighter, sank in September 1941
RI SHPO	<i>Hercules</i>	Wooden steam tug, sank December 1907
RI SHPO	<i>Heroine</i>	Steam fishing vessel, sank June 1920
RI SHPO	<i>USS L-8</i>	Diesel electric submarine, sank in 1926
RI SHPO	<i>Lake Crystal</i>	Coal barge, sank in 1946
RI SHPO	<i>Larchmont</i>	Passenger steamer, sank in 1907
RI SHPO	<i>USS Leyden</i>	Steam tug
RI SHPO	<i>Lightburne</i>	Steam tanker
RI SHPO	<i>Mary Arnold</i>	Tug, sank in 1940
RI SHPO	<i>Meteor</i>	Iron steam powered collier, sank in 1926
RI SHPO	<i>Metis</i>	Passenger steamship, sank in 1872
RI SHPO	<i>Minerva</i>	Two-masted Spanish brig, sank in 1810
RI SHPO	<i>Montana</i>	Schooner barge, sank in 1907
RI SHPO	<i>Onondaga</i>	Steel freighter, sank in 1918
RI SHPO	<i>Puszt</i>	Steel freighter, sank in 1934
RI SHPO	<i>Spartan</i>	Iron freighter, sank in 1905

Source: New York SHPO 2021; New Jersey SHPO 2021; Rhode Island SHPO 2021

APE = Area of Potential Effects; RI = Rhode Island; SHPO = State Historic Preservation Officer

The New York Bight WEAs have a high potential for the presence of submerged archaeological sites dating from the Paleoindian through Early Archaic periods as well as high potential for the presence of submerged historic sites including shipwrecks. However, lease and grant stipulations will require lessees/grantees to avoid any potential historic properties identified through their high-

resolution geophysical surveys during the conduct of ground-disturbing activities associated with site characterization activities.

III. Required Elements in the Lease and or Grant

Per Stipulation I.E of the New York and New Jersey Programmatic Agreement and Stipulation I of the Massachusetts and Rhode Island Programmatic Agreement, where practicable, BOEM will require avoidance of potential historic properties through lease stipulations, resulting in BOEM recording a Finding of No Historic Properties Affected, consistent with 36 CFR § 800.4(d)(1). Inclusion of the following elements in the lease will ensure the identification and avoidance of historic properties and is a requirement of this Finding.

The following elements, designed to avoid impacts on offshore historic properties from ground-disturbing activities associated with site characterization surveys, would be included in commercial leases issued within the New York Bight WEAs and ROWs and RUEs grants in the region:

- The lessee must provide the results of an archaeological survey with its plans.
- The lessee must ensure that the analysis of archaeological survey data collected in support of plan submittal and the preparation of archaeological reports in support of plan submittal are conducted by a Qualified Marine Archaeologist who meets the Secretary of the Interior’s Professional Qualifications Standards (48 *Federal Register* 44738–44739) and has experience analyzing marine geophysical data.
- The lessee may only conduct geotechnical exploration activities in support of plan submittal in locations where an archaeological analysis of the results of geophysical surveys has been completed. This analysis must include a determination by a Qualified Marine Archaeologist as to whether any potential archaeological resources are present in the area that could be affected by bottom-disturbing activities.
- Geotechnical sampling activities must avoid any potential archaeological resources by a minimum of 164 feet (50 meters). The avoidance distance must be calculated by the Qualified Marine Archaeologist from the maximum discernible extent of the archaeological resource.
- Upon completion of geotechnical exploration activities, a Qualified Marine Archaeologist must certify, in the lessee’s archaeological report(s) submitted with a plan, that such activities did not affect potential historic properties identified as a result of the HRG surveys performed in support of plan submittal, except as follows: in the event that the geotechnical exploration activities did affect potential historic properties identified in the archaeological surveys without the lessor’s prior approval, the lessee and the Qualified Marine Archaeologist who prepared the report must instead provide a statement documenting the extent of these impacts.
- The lessee must not knowingly affect a potential archaeological resource without the lessor’s prior approval.

In addition, BOEM would require that the lessee observe the unanticipated finds requirements at 30 CFR 585.802. The following elements would be included in leases issued within the New York Bight WEAs and ROW and RUE grants in the region:

- If the lessee, while conducting site characterization activities in support of plan (i.e., SAP and/or COP or GAP) submittal, discovers a potential archaeological resource such as the presence of a shipwreck or pre-contact archaeological site within the project area, the lessee must:
 - Immediately halt seafloor-disturbing activities in the area of discovery;
 - Notify the lessor within 24 hours of discovery;
 - Notify the lessor in writing by report within 72 hours of its discovery;
 - Keep the location of the discovery confidential and take no action that may adversely affect the archaeological resource until the lessor has made an evaluation and instructs the applicant on how to proceed; and
 - Conduct any additional investigations as directed by the lessor to determine if the resource is eligible for listing in the NRHP (30 CFR 585.802(b)). The lessor will direct the lessee to conduct such investigations if: (1) the site has been affected by the lessee's project activities; or (2) impacts on the site or on the APE cannot be avoided. If investigations indicate that the resource is potentially eligible for listing in the NRHP, the lessor will tell the lessee how to protect the resource or how to mitigate adverse effects on the site. If the lessor incurs costs in protecting the resource, under Section 110(g) of the NHPA, the lessor may charge the lessee reasonable costs for carrying out preservation responsibilities under the OCSLA (30 CFR 585.802(c–d)).

IV. The Basis for the Determination of No Historic Properties Affected

This Finding is based on a review of existing and available information conducted by BOEM, consultation with interested and affected parties, avoidance stipulations outlined in the required elements of a lease or grant, and conclusions drawn from this information. The proposed undertaking includes the issuance of commercial or research leases within the New York Bight WEAs and ROW/RUE grants in the region and takes into account the execution of associated site characterization activities.

The required identification and avoidance measures that will be included in leases and grants will ensure that the proposed undertaking will not affect historic properties. Therefore, no historic properties will be affected for the undertaking of issuing a commercial lease within the New York WEA, consistent with 36 CFR § 800.4(d).

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VI. Appendices

Appendix A: New York Bight Area Identification Memorandum Pursuant to 30 C.F.R. § 585.211(b)

Appendix B: List of Consulting Parties and Potential Consulting Parties and Letter Invitation

Appendix C: Concurrence Letters from the New York and Rhode Island State Historic Preservation Offices

Appendix A: New York Bight Area Identification Memorandum Pursuant to 30 C.F.R. § 585.211(b)



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Memorandum

To: Director

From: James F. Bennett
Chief, Office of Renewable Energy Programs

Subject: New York Bight Area Identification Memorandum Pursuant to 30 C.F.R. § 585.211(b)

I. Purpose

This memorandum documents the analysis and rationale used to develop recommendations for Wind Energy Areas (WEA) in the New York Bight (NY Bight) for the Director of the Bureau of Ocean Energy Management (BOEM), and for environmental analysis. Pursuant to BOEM's 2017 Program Delegations Handbook, authority to determine final WEAs through the Area Identification (Area ID) is delegated to the BOEM Director.

II. Decision Summary

As described in Table 1 and depicted in Figure 1, the recommended WEAs for the NY Bight consist of 807,383 total acres.

Table 1: NY Bight WEAs Descriptive Statistics

	Fairways North WEA	Fairways South WEA	Hudson North WEA	Central Bight WEA	Hudson South WEA	Total
<i>Acres</i>	88,246	23,841	43,056	84,688	567,552	807,383
<i>Installation Capacity (MW)¹</i>	1,071	289	523	1,028	6,890	9,802
<i>Homes powered²</i>	374,975	101,305	182,954	359,857	2,411,644	3,430,734
<i>Power Production (MWh/yr)³</i>	3,754,037	1,014,210	1,831,628	3,602,678	24,143,998	34,346,551
<i>Max Depth (meters[m])</i>	56	46	45	61	59	--
<i>Min Depth (m)</i>	42	39	41	52	32	--
<i>Closest distance to NY (nautical mile [nmi])</i>	15	15	21	38	45	--
<i>Closest distance to NJ (nmi)</i>	69	45	36	53	23	--

¹ Megawatts (MW) based upon 3MW/sqkm

² Based upon 350 homes per MW

³ Megawatt hours per year (MWh/yr) Formula = Capacity (MW) * 8760 (hrs/yr) * 0.4 (capacity factor)

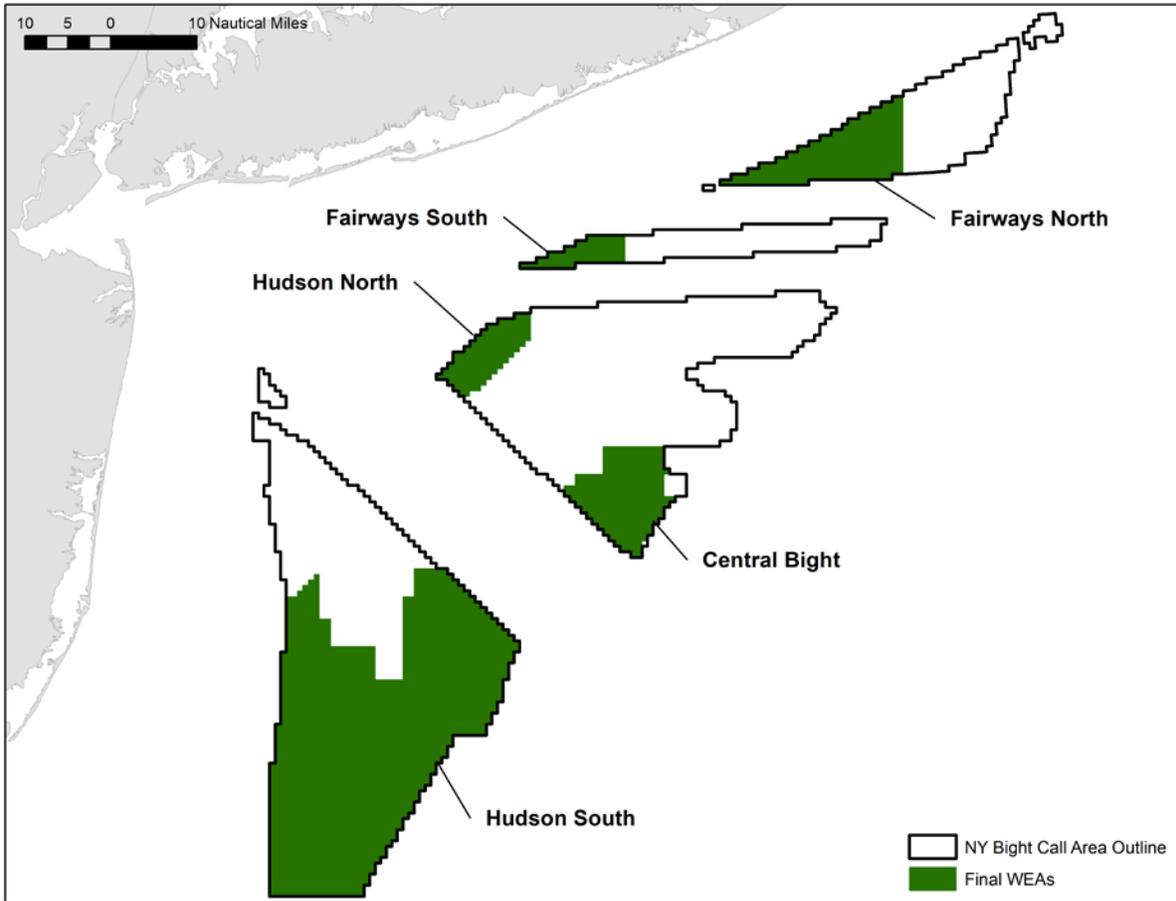


Figure 1: Map of the Recommended Wind Energy Areas in the New York Bight

III. Legal Standard

Pursuant to Subsection 8(p) of the Outer Continental Shelf Lands Act (OCSLA), the Secretary of the Interior (the Secretary), in consultation with the U.S. Coast Guard (USCG) and other relevant Federal agencies, may grant a lease, easement, or right-of-way on the Outer Continental Shelf (OCS) for activities that produce or support production of energy from sources other than oil and gas (43 U.S.C. § 1337(p)(1)(C)). The Secretary must ensure that activities under this subsection are carried out in a manner that provide for 13 specific enumerated requirements, including safety, protection of the environment, and consideration of other uses of the sea or seabed. *Id.* § 1337(p)(4)(A)–(L). BOEM has issued regulations governing the leasing process and management of offshore renewable energy projects. *See* 74 Fed. Reg. 19,638 (Apr. 29, 2009); *see also* 30 C.F.R. part 585.

This memorandum documents BOEM’s consideration of OCSLA environmental factors and multiple uses at the Area ID stage of its leasing process (43 U.S.C. § 1337(p)(4)(A), (B), (D), (F), (I), and (J)), as explained further in Section IV below. The identification of WEAs for environmental analysis and leasing consideration does not constitute a final leasing decision. BOEM reserves the right under its regulations to issue leases in smaller, fewer and/or different

areas—or issue no leases. BOEM will conduct further analysis under OCSLA and the National Environmental Policy Act (NEPA) at subsequent stages of its regulatory process, including if and when leases are issued, and wind energy facilities are proposed on those leases.

IV. Description of the BOEM Process

A. Call for Information and Nominations

The competitive lease issuance process starts with the publication of a Call for Information and Nominations (Call), which requests comments from the public about areas of the OCS that they believe should receive special consideration and analysis for the potential development of renewable energy (30 C.F.R. § 585.211(a)).

On April 11, 2018, BOEM published a Call for Commercial Leasing for Wind Power on the OCS in the NY Bight.⁴ BOEM delineated the Call Areas in consultation with numerous parties and information sources, including the State of New York and the Intergovernmental Renewable Energy Task Force. In addition to soliciting public comment in the *Federal Register*,⁵ BOEM hosted public meetings with participation from members of the New York, New Jersey, Massachusetts, and Rhode Island Task Forces, as well as other representatives from relevant Federal, state, local, and tribal government entities. BOEM also held subject matter specific meetings to better understand concerns related to potential impacts to fisheries, navigation, and other potential use conflicts. A map of the Call Areas is shown in Figure 2.

⁴ <https://www.boem.gov/83-FR-15602/>

⁵ <https://www.regulations.gov/docket?D=BOEM-2018-0004>

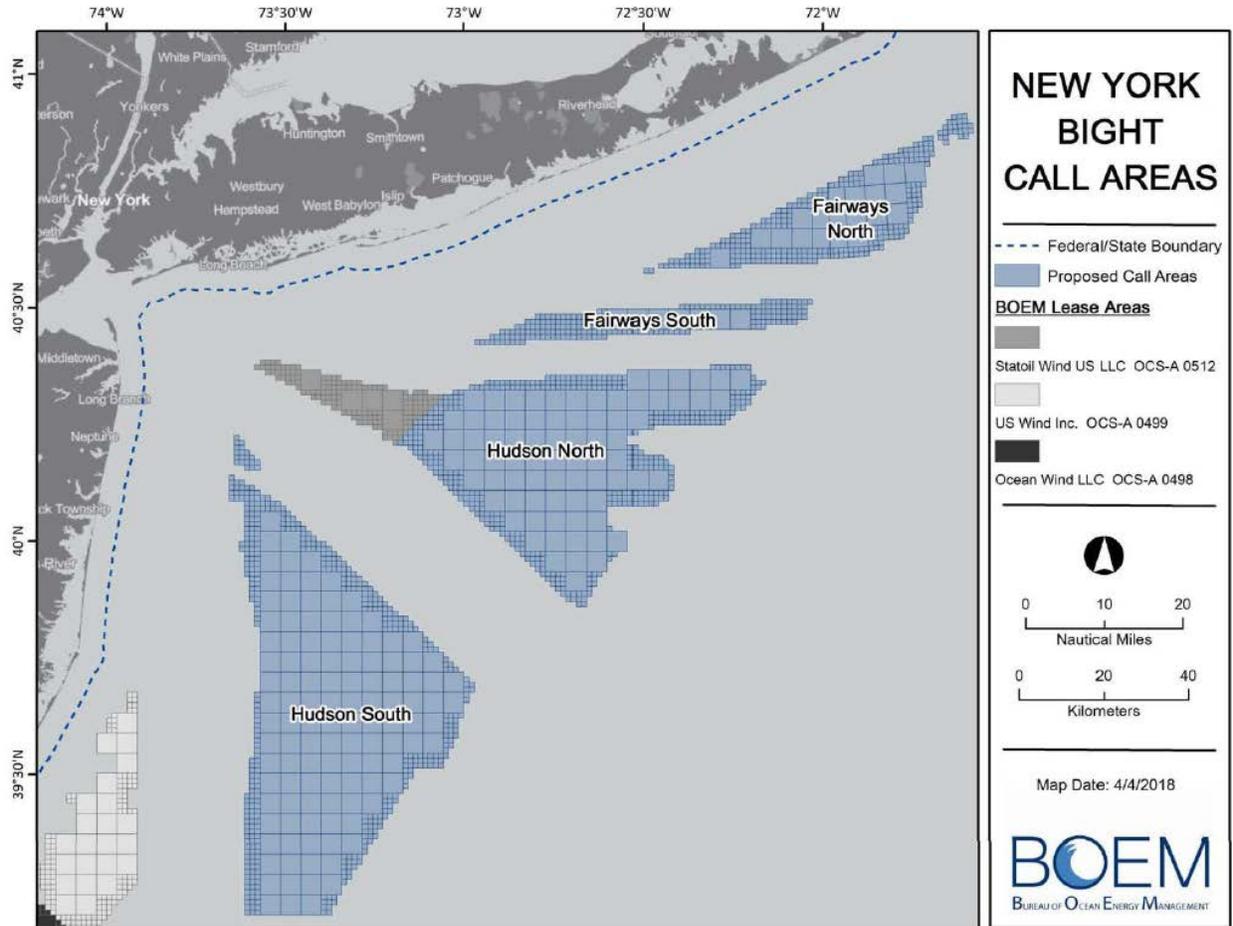


Figure 2: The New York Bight Call Areas

B. Area ID

An Area ID determination is a required regulatory step under the renewable energy competitive leasing process used to identify areas for environmental analysis and consideration for leasing. See 30 C.F.R. § 585.211(b). The goal of BOEM’s Area ID process is to identify the offshore locations that are most suitable for leasing. The Area ID determination must take into consideration multiple competing uses and environmental concerns that may be associated with a proposed area’s potential for commercial wind energy development. Potential impacts of a specific proposed renewable energy facility in the identified areas would be addressed during the review of a Construction and Operations Plan (COP), since it is then when project-specific information becomes available.

The comment period for the Call for Commercial Leasing for Wind Power on the OCS in the NY Bight ended on July 30, 2018, and thereafter, BOEM initiated the Area ID process by reviewing the 132 comments and 8 nominations it received. Comments received on the Call are available at <https://www.regulations.gov/> [Docket No. BOEM–2018–0004], and include submissions from private citizens; Federal, state, and local government agencies; environmental and other advocacy groups; industry groups; and wind developers. Through the Area ID process, BOEM

considered the following non-exclusive list of information sources: comments and nominations received on the Call; information from the NY Bight Intergovernmental Task Force; input from New York, New Jersey, Rhode Island, and Massachusetts state agencies; input from Federal agencies; comments from relevant stakeholders, including the maritime community, offshore wind developers, and the commercial fishing industry; state and local renewable energy goals; and information on domestic and global offshore wind market and technological trends.

C. Environmental Review Process Following the Area ID Determination

After the Area ID determination is made, but before a lease sale occurs, BOEM will conduct environmental review pursuant to NEPA to assess the potential environmental impacts associated with lease issuance.⁶ The Area ID informs the environmental review process by identifying and informing the geographic scope of environmental analysis for any future lease sales in the area. If there were a lease sale, the issuance of a lease would grant to the lessee only the exclusive right to submit a plan proposing development of the leasehold to BOEM for approval. The lease would not, by itself, authorize any activity within the lease area. Therefore, BOEM does not consider the issuance of a lease to constitute an irreversible and irretrievable commitment of agency resources toward the construction of a wind energy facility. Consequently, BOEM would prepare an Environmental Assessment (EA) before any lease sale and conduct associated consultations to consider the potential impacts from the activities that are reasonably foreseeable as a result of leasing, which are site characterization activities (such as biological, geological, geotechnical, and archaeological surveys) and site assessment activities (such as meteorological and oceanographic buoy deployment).

Department of the Interior (DOI) regulations require public involvement to the extent practicable in the preparation of an EA.⁷ BOEM would initiate public scoping for any Lease Sale EA concurrent with the announcement of the WEAs, and would allow for public review of the EA. DOI has issued a directive that EAs prepared by DOI bureaus must be completed within 180 days.⁸ The issuance of a notice to prepare an EA would begin the 180-day timeline. Through the public scoping process, BOEM would identify a reasonable range of alternatives to the proposed action of leasing in the full WEAs, and would analyze those alternatives in the EA. The EA and associated consultations might also identify potential lease stipulations to reduce or eliminate potential environmental impacts associated with site characterization and site assessment activities. If BOEM reaches a Finding of No Significant Impact (FONSI), then BOEM could proceed with lease issuance without the preparation of an Environmental Impact Statement (EIS).

If a lease is issued and a lessee submits a COP on that lease, BOEM would consider its merits; perform the necessary consultations with the appropriate state, Federal, local, and tribal entities; solicit input from the public and task force members; and perform an independent, comprehensive, site- and project-specific environmental analysis under NEPA. This separate site- and project-specific environmental analysis for a COP, would provide additional

⁶ 42 U.S.C. §§ 4321 *et seq.*

⁷ 43 C.F.R. § 46.305.

⁸ Memorandum dated August 6, 2018 from the Deputy Secretary of the Interior regarding Additional Direction for Implementing Secretary's Order 3355 Regarding Environmental Assessments.

opportunities for public involvement pursuant to NEPA and the Council on Environmental Quality regulations at 40 CFR Parts 1500–1508. BOEM would use this information to evaluate the potential environmental and socioeconomic impacts associated with the lessee-proposed project, when considering whether to approve, approve with modification, or disapprove a lessee’s COP pursuant to 30 CFR 585.628. It is BOEM’s position that any analysis of project-specific impacts prior to COP submittal is speculative.

D. Proposed and Final Sale Notices

If BOEM decides to offer an area(s) for lease, BOEM would publish the proposed area(s) for lease, along with the associated terms and conditions, and a proposed format of the competitive auction in a Proposed Sale Notice (PSN) issued pursuant to 30 C.F.R. § 585.216. The PSN would then be followed by a formal public comment period, which helps to inform the Final Sale Notice (FSN). BOEM may use information from the NEPA analysis for any lease sale, as well as information gathered in response to the PSN, to further refine lease areas and develop lease terms and conditions. BOEM must complete the NEPA analysis prior to issuance of the FSN.

V. Background

A. The New York Bight: General Description

The NY Bight, an offshore area extending generally northeast from Cape May in New Jersey to Montauk Point on the eastern tip of Long Island, is adjacent to the greater metropolitan Tri-State area, which is home to more than 20 million people and is the largest metropolitan population center in the United States, representing significant energy demand.⁹ The NY Bight is home to a wide range of ocean uses and biological diversity, and is a major economic driver for the northeastern United States. In particular, the NY Bight supports a commercial fishing industry that produced more than \$340 million dollars in landings from 2012 to 2016,¹⁰ and contains the third largest port in the United States, servicing more than 8,500 deep-sea vessel transits in 2016.¹¹

The NY Bight is also home to approximately 39 marine mammal species, 5 sea turtle species, and more than 50 avian species. Greater diversity and abundance of marine mammals exists beyond the continental shelf, primarily because of deep canyons and high productivity from upwellings along the shelf edge.

Several National Park Service units and numerous properties listed on the National Register of Historic Properties (NRHP) are located along the coastline of the NY Bight. These include, but are not limited to: Fire Island National Seashore; Sandy Hook National Park; Montauk Point Light House, Fire Island Administration Building, Fort Tilden Historic District, Long Beach Island Fishing Club, and the Marvin Gardens Historic District. The New York State Offshore

⁹ <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

¹⁰ Based on NMFS June 7, 2018 comment in response to the Call indicating that “fishing within the proposed Call Areas landed over 62.6 million pounds (lb), valued at over \$344.8 million during 2012-2016.”

¹¹ Port Authority for the Port of New York and New Jersey. (2018, April) 2016 Port Trade Statistics. Retrieved from: <http://www.panynj.gov/port/pdf/2016-Port-Trade-Statistics.pdf>

Wind Master Plan (Master Plan) Cultural Resources Study provides a summary overview of the known historic properties within a mile of the New York shoreline, including Long Island.¹² Additional NRHP-listed properties identified by the New Jersey State Historic Preservation Officer include Bay Head Historic District, Board Walk Hall, and Lucy the Elephant. A more complete source of NRHP-listed properties, along with properties that have been determined NRHP-eligible but not listed, is found on the New York State Historic Preservation Office's Cultural Research Information System and the New Jersey State Historic Preservation Office LUCY system.

B. The New York Bight: A Buildable Environment

The NY Bight contains three elements that are critical for successful offshore wind development—sustainable wind speeds, relatively shallow water depths with buildable substrate and robust regional energy demand. Specifically, annual wind speeds of 8.1 m per second and higher are found in the NY Bight Call Areas, as depicted in Figure 3, which exceeds average speeds of several commercial developments in the North Sea.¹³

¹² <https://www.nyseda.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25h-Final-Cultural-Resources-Study.pdf>

¹³ Analysis of wind speed observations on the North Sea Coast. (1998, February) *Journal of Wind Engineering and Industrial Aerodynamics*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0167610597002857?via%3Dihub>

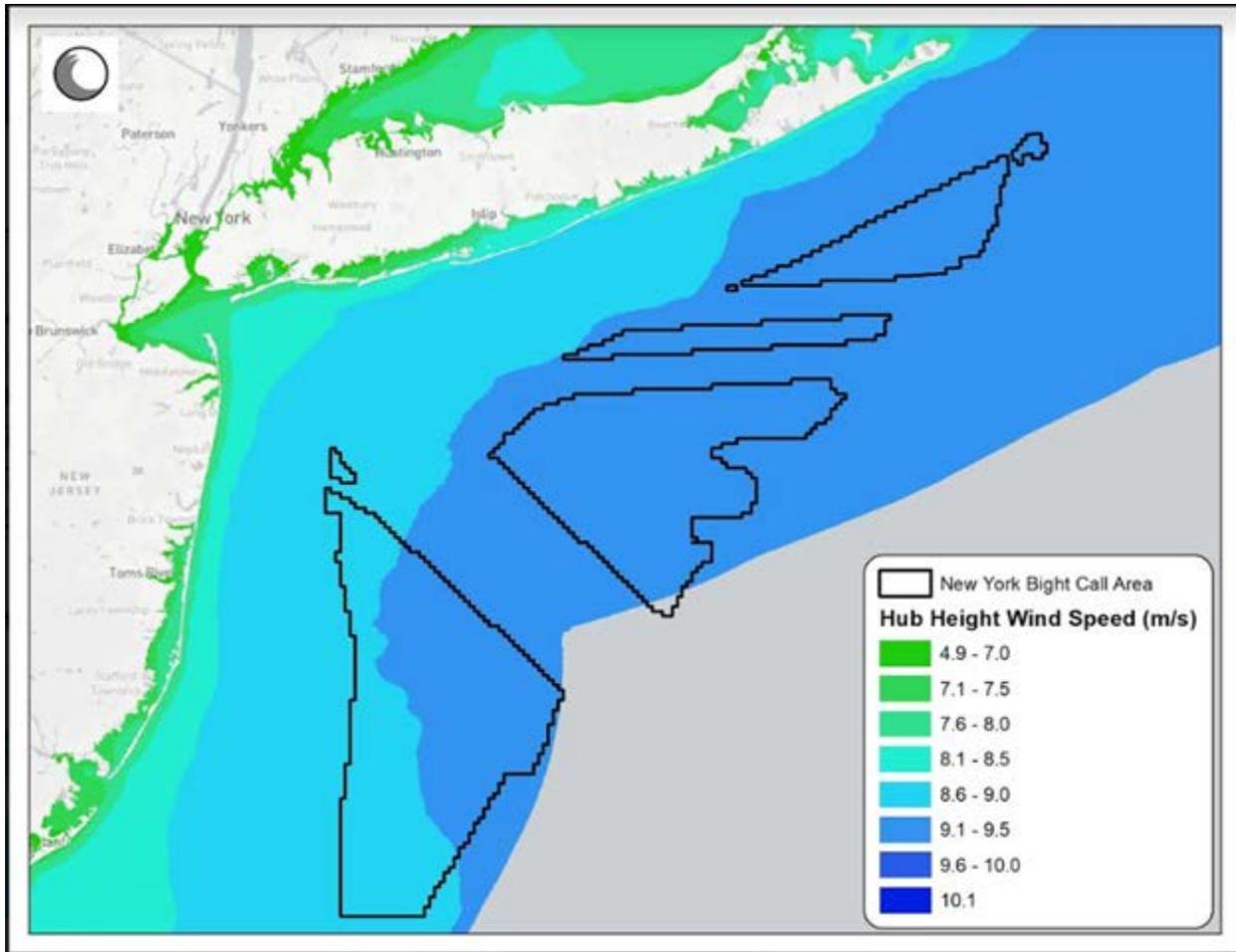


Figure 3: Estimates of the Annual Average Wind Resource (Speed) in the New York Bight¹⁴

The water depth, which ranges between 29 to 61 m, is suitable for several types of commercially viable bottom-fixed foundations¹⁵, and geologic conditions in and around the NY Bight indicate offshore wind development is technically feasible. Finally, over 22 gigawatts (GW) of state supported offshore wind development targets are represented in the Northeast, including New York (9 GW), New Jersey (7.5 GW), Massachusetts (3.2 GW), Rhode Island (400 MW) and Connecticut (2 GW), representing a significant local demand and competitive development environment. BOEM estimates that this energy demand would not be satisfied by full utilization of the areas BOEM has already offered for lease in the region.

¹⁴ <https://www.nrel.gov/docs/fy16osti/66599.pdf>

¹⁵ Id.

C. Regional State Activities

1. New York

According to the U.S. Energy Information Administration, Energy Consumption Estimates, New York State's total energy consumption is the highest among the northeastern states.¹⁶ New York's increasing demand for renewable energy also makes the NY Bight a strong candidate for offshore wind energy development.¹⁷ New York's Clean Energy Standard requires that the contribution to in-state electricity generation from renewable resources rise to 70% by 2030.¹⁸

On October 2, 2017, BOEM received the State of New York's Area for Consideration for the Potential Locating of Offshore WEAs.¹⁹ This document identifies an area of the NY Bight that the state determined, based on the same compilation and analysis of scientific, stakeholder, and analytical data that supports the Master Plan, to be most desirable for future offshore wind development. BOEM has taken the state's recommendation into account in recommending WEAs, and will consider the data and analyses generated by the state at subsequent stages of its planning and potential actions, including possible leasing in the NY Bight.

In January 2018, the State of New York published the Master Plan, which established the goal of supporting 2.4 GW of offshore wind energy by 2030.²⁰ The objective of New York's Master Plan is "to ensure that offshore wind in New York is developed in the most responsible and cost-effective manner possible," and the plan lays out a proposed path to meet the underlying goal. To support the Master Plan, the New York State Energy and Research Development Authority (NYSERDA) conducted more than 20 studies and engaged with stakeholders and the public with the stated objective of ensuring that offshore wind is developed in a responsible and cost-effective manner.

In July 2018, the New York Public Service Commission issued an order authorizing solicitations by NYSERDA, in consultation with the Long Island Power Authority and New York Power Authority, for a first phase of offshore wind procurements in 2018 and 2019 of approximately 800 MW.²¹ On November 8, 2018, NYSERDA issued its first solicitation for 800 MW or more of new offshore wind projects for New York.²²

On July 18, 2019, Governor Andrew Cuomo signed the Climate Leadership and Community Protection Act, which supports the development of 9,000 MW of offshore wind energy by 2035,

¹⁶ Energy Consumption Estimates by End-Use Sector, Ranked by State, 2018
https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/rank_use.html&sid=US

¹⁷ <https://www.nyserdera.ny.gov/All-Programs/Programs/Clean-Energy-Standard>

¹⁸ *Id.*

¹⁹ <https://www.nyserdera.ny.gov/All-Programs/Programs/Offshore-Wind/Offshore-Wind-in-New-York-State-Overview/Siting-Offshore-Wind-Facilities/Area-for-Consideration>

²⁰ <https://www.nyserdera.ny.gov/All-Programs/Programs/Offshore-Wind/Offshore-Wind-in-New-York-State-Overview/NYS-Offshore-Wind-Master-Plan>

²¹ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B37EE76DF-81B1-47D4-B10A-73E21ABA1549%7D>

²² <https://www.nyserdera.ny.gov/All-Programs/Programs/Offshore-Wind/Offshore-Wind-Solicitations/Generators-and-Developers/2018-Solicitation>

enough to power up to 6 million homes.²³ Meeting the significant state goal will likely require development of a greater portion of the NY Bight for wind energy projects than that initially recommended by New York in its Area for Consideration.

Under the New York State Public Service Commission's July 2018 Order Adopting the Offshore Wind Standard, which set the framework for the first phase of offshore wind energy solicitations, NYSERDA selected and contracted with 2 offshore wind project proposals - totaling nearly 1,700 MW. These 2 projects, Empire Wind (816 MW) and Sunrise Wind (880 MW) completed contract negotiations in October 2019.

On July 21, 2020, Governor Cuomo issued a second offshore wind procurement where NYSERDA is seeking up to 2,500 MW of offshore wind. In January 2021, Equinor was selected to provide New York State with 2,490 MW of offshore wind power from the Empire Wind 2 and Beacon Wind 1 projects. Notably, this brings New York State's procurement totals to 3.3 GWs from proposed projects not only offshore New York, but also offshore Southern New England.

2. *New Jersey*

In August 2010, then Governor Chris Christie signed the Offshore Wind Economic Development Act (OWEDA) into law. OWEDA required the New Jersey Board of Public Utilities (NJ BPU) to establish a program for Offshore Wind Renewable Energy Certificates (ORECs) to incentivize the development of offshore wind facilities. On January 31, 2018, New Jersey Governor Phil Murphy issued Executive Order No. 8, which directs all New Jersey State Agencies with responsibilities under the OWEDA to fully implement the Act in order to meet a goal of obtaining 3.5 GW of offshore wind energy by the year 2030.²⁴

As a result of the Executive Order, the NJ BPU issued a solicitation to acquire ORECs for 1,100 MWs of power generation from Qualified Offshore Wind Projects. On June 21, 2019, the BPU selected Orsted's Ocean Wind project (1,100 MW) offshore New Jersey to fill the solicitation.²⁵

In January 2020, Governor Phil Murphy released the state's Energy Master Plan, which outlines the path to achieving the goal of 100% clean energy by 2050.²⁶ The plan outlines seven strategies, including "Accelerating Deployment of Renewable Energy and Distributed Energy Resources by developing offshore wind..." that would further the goal of developing 7,500 MW of offshore wind energy generation by 2035. In support of that goal, the NJ BPU issued a second solicitation in September 2020 to acquire ORECs for 1,200 to 2,400 MW of offshore wind capacity. Both Ocean Wind, LLC (OCS-A 0498) and Atlantic Shores Offshore Wind, LLC (OCS-A 0499), submitted applications in response to solicitation. A NJ BPU decision on the applications received is expected in June 2021.²⁷

23 <https://www.nysenate.gov/legislation/bills/2019/s6599>

24 See [Offshore Wind in New Jersey](#)

25 <https://www.bpu.state.nj.us/bpu/newsroom/2019/approved/20190621.html>

26 <https://www.nj.gov/governor/news/news/562020/approved/20200127a.shtml>

27 <http://njoffshorewind.com/>

3. *Massachusetts*

On August 8, 2016, Massachusetts Governor Charlie Baker signed the Act to Promote Energy Diversity, which allows for the procurement of up to 1,600 MW of offshore wind energy by 2027. On June 29, 2017, the Massachusetts Electric Distribution Companies, in coordination with the Massachusetts Department of Energy Resources, issued a Request for Proposals (RFP) for long-term contracts for offshore wind energy projects. On May 23, 2018, the Massachusetts Electric Distribution Companies awarded Vineyard Wind two 400-MW, 20-year Power Purchase Agreements (PPAs) (totaling 800 MW) of offshore wind energy generation.²⁸ On August 9, 2018, Governor Baker signed an Act to Advance Clean Energy, which authorizes the Massachusetts Department of Energy Resources (DOER) to conduct procurements of up to 1,600 additional MW by 2035, after conducting a cost benefit analysis.²⁹ After conducting its analysis, DOER exercised the option in May 2019.

On May 24, 2019, Massachusetts issued its second bid solicitation, requesting submittal of plans for an offshore wind farm of 400 MW, with the option of an additional alternative proposal of 200 to 800 MW.³⁰ On October 30, 2019, the Massachusetts Electric Distribution Companies selected Mayflower Wind for its bid of 804 MW of offshore wind energy generation. The next round of offshore wind solicitation is anticipated to be held in 2022.

4. *Rhode Island and Connecticut*

On May 23, 2018, Rhode Island announced the selection of Deepwater Wind (now owned by Ørsted US Offshore Wind) to provide 400 MW of offshore wind energy from the Revolution Wind project through the state's participation in the clean energy procurement process conducted by the Commonwealth of Massachusetts.³¹ Additionally, the State of Connecticut selected Deepwater Wind to provide an additional 304 MW from the Revolution Wind project through the recent Clean Energy Request for Proposals issued by the Department of Energy and Environmental Protection (DEEP).³² In January 2020, Governor Gina Raimondo announced a goal of meeting 100% of Rhode Island's electricity demand with renewable energy by 2030.³³ On October 27, 2020, Governor Raimondo announced Rhode Island's intention to procure up to 600 MW of new offshore wind energy, and issued an RFP to be developed by National Grid, with oversight by the state Office of Energy Resources, and subject to approval by the Public Utilities Commission, as early as 2021.

In addition, on June 7, 2019, Connecticut Governor Ned Lamont signed legislation authorizing the procurement of up to 2 GW of offshore wind energy by 2030, with the first solicitation in 2019 and subsequent solicitations established through the DEEP Integrated Resources Plan.³⁴ Following the first solicitation issued in August 2019, on December 5, 2019, the DEEP

28 <https://www.mass.gov/service-details/offshore-wind>

29 <https://malegislature.gov/Bills/190/H4857>

30 <https://macleanenergy.com/83c-ii/83c-ii-documents/>

31 <https://www.ri.gov/press/view/33287>

32 <https://www.ct.gov/deep/cwp/view.asp?A=4965&Q=603300>

33 <https://www.ri.gov/press/view/39674#:~:text=In%20January%2C%20I%20set%20a.nation's%20burgeoning%20of%20wind%20industry.%22>

34 <https://www.cga.ct.gov/2019/amd/H/pdf/2019HB-07156-R00HA-AMD.pdf>

announced the selection of Vineyard Wind’s 804 MW Park City Wind proposal for a 20-year PPA. DEEP’s draft Integrated Resources Plan, which analyzes pathways and recommends strategies for achieving a 100% zero carbon electricity target by 2040, was released on December 17, 2020, for public comment. The draft Integrated Resources Plan proposes the next procurement for offshore wind as early as 2023.^{35 36}

D. Nominations

In response to the NY Bight Call, BOEM received multiple nominations from commercial wind developers with the central portion of the Hudson South Call Area receiving the largest concentration of nominations as shown in Figure 4. BOEM received nominations from 8 qualified entities proposing to develop offshore wind within the NY Bight Call Areas.

1. Avangrid Renewables LLC
2. East Wind LLC
3. EDF Renewables Development, Inc.
4. Equinor Wind US LLC
5. Horizon Wind Power LLC
6. Innogy US Renewable Projects LLC
7. PNE Wind USA, Inc.
8. US Wind Inc.

Several developers noted in their submissions that, while they were nominating a specific area, they would be interested in any area that BOEM were to lease in the NY Bight. Additional information about each nomination, including maps, nomination rational and OCS block tables can be found here: <https://www.boem.gov/NY-Bight-Nominations/>.

³⁵ <https://portal.ct.gov/-/media/DEEP/energy/IRP/2020-IRP/2020-CT-DEEP-Draft-Integrated-Resources-Plan-in-Accordance-with-CGS-16a-3a.pdf>

³⁶ <http://www.wnpr.org/post/under-new-management-new-london-pier-looks-capitalize-offshore-wind>

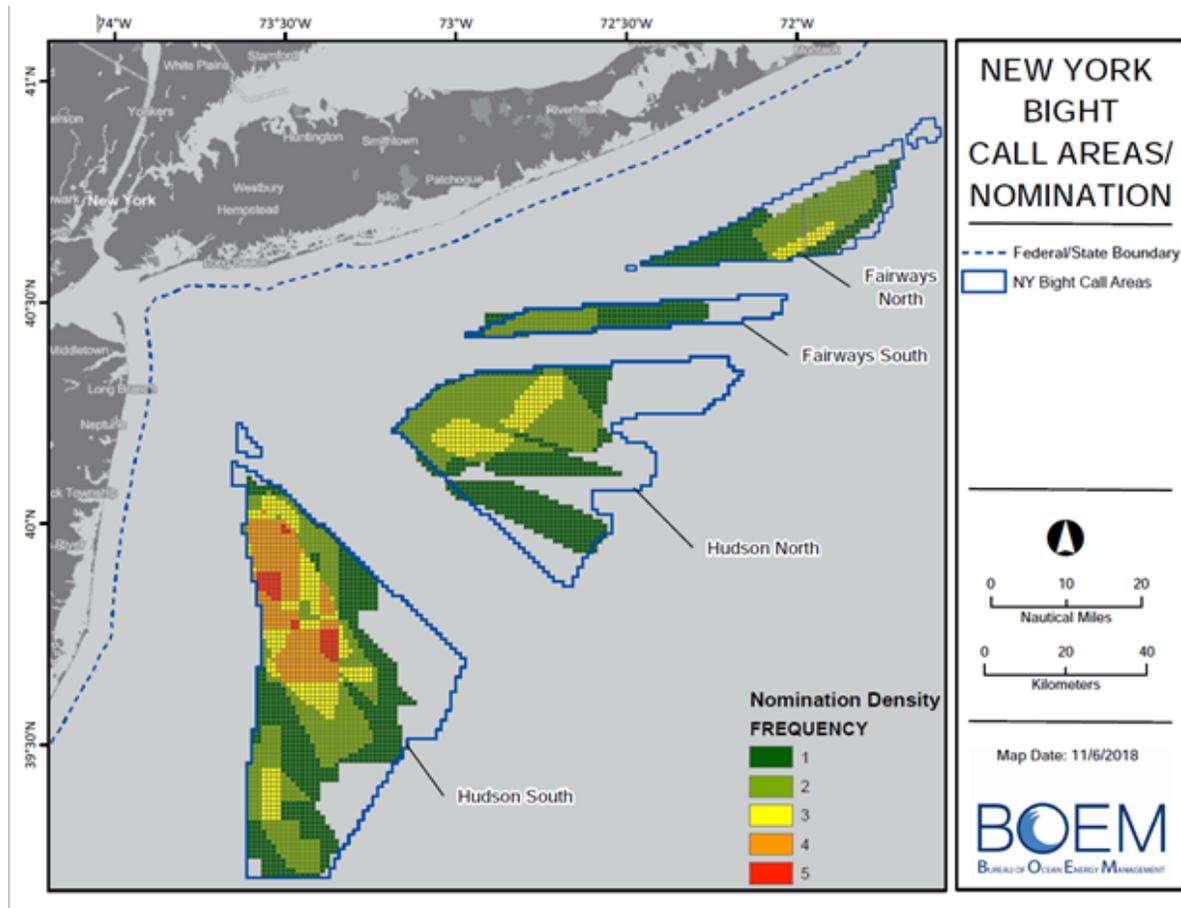


Figure 4: New York Bight nominations received in response to the Call for Information and Nominations.

E. Competing Uses Analyzed During the Area ID Process

BOEM considered multiple existing uses of the NY Bight in developing the Call Areas via thorough internal analysis. The uses that were found to interact most with potential offshore wind development are (i) commercial and recreational fishing, (ii) maritime navigation, and (iii) Department of Defense (DOD) activities. Several additional uses and potential impacts were considered but did not significantly influence the location of the recommended WEAs. Salient highlights of our internal analysis are included in the sections below.

1. Commercial and Recreational Fishing

Commercial and recreational fishing activities occur throughout the NY Bight. The top 5 commercial fishery management plans (FMPs) include: Atlantic sea scallop; summer flounder, scup, black sea bass; surfclam, ocean quahog; mackerel squid, butterfish; and fisheries for which there are no Federal FMP (e.g., lobster, Jonah crab, whelk, and menhaden).³⁷ Due to the diversity of fisheries in the NY Bight, a variety of gear types, vessels, and fishing techniques are used. While BOEM does not explicitly preclude any fishing effort within a potential wind farm,

³⁷ NMFS letter to BOEM regarding the NY Bight Call Areas dated June 7, 2018.

we recognize that aspects of the offshore wind development process may impact certain fishing activities. BOEM has tried to minimize these potential space-use conflicts. For example, the Call did not include for leasing consideration the Mid-Atlantic Scallop Rotational Area – an important scallop resource management area along the southern border of the Hudson South Call Area. Comments have been submitted recommending a buffer between the Hudson South Call Area and the Mid-Atlantic Scallop Rotational Area. However, any potential buffer should be considered in the context of lease area delineation (e.g., proposed sale areas).

Some fisheries may be more affected than others depending on the final facility attributes. As a result, no single mitigation approach or leasing exclusion area will resolve all potential fishing use conflicts. State fishery agencies and the commercial fishing industry did not reach consensus regarding locations in the Call Area that are less important to the industry because locations that are less important to one fishery are often deemed more important to another fishery. Even within a fishery the dependence on an area as a fishery can vary greatly from port to port or vessel to vessel.

a) Gear Types

According to NMFS, landings from bottom tending mobile gear (dredge and trawl gear) represented 70% of the landings from the NY Bight Call Areas. Some fishermen with bottom-tending mobile gear types assert that offshore wind development is incompatible with their existing use of the Call Areas, while others suggest that certain wind farm design parameters could allow for coexistence. Scallop fishermen, whose gear penetrates the seafloor by a few inches, are concerned about snagging unburied cables, along with physical impacts (e.g., sedimentation; water flow) from wind farm construction and operation. They generally prefer that the WEAs exclude heavily fished areas, since they do not see any effective mitigation of impacts. On the other hand, some surfclam and ocean quahog fishermen assert that offshore wind facilities could be compatible with their activities if the turbines are at least 2 to 4 miles apart, with cables buried at a depth of at least 2 m and in a straight orientation design based on the prevailing ocean currents.

b) Relative Use Index

In recognition that all of the Call Areas experience some level of fishing activity, BOEM developed a Relative Use Index (RUI), as depicted in Figure 5, to determine areas that would have less impact relative to total fishing activity and avoid known unique benthic habitats (represented by the NJ Sportfishing Atlas data layer in Figure 5). Using vessel trip report data from the NMFS for the period 2007-2015, BOEM identified the top six FMPs by total revenue in the Call Areas for mapping their relative use. The scallop fishery is by far the highest-value fishery. BOEM is concerned, however, that a strict revenue analysis would result in recommended WEAs that disproportionately impact lower value fisheries. To address concerns from the fishing industry about this disparity in economic value, BOEM created a weighted spatial overlay of multiple factors, including conversion of the fishing revenue, adjusted to weight the relative importance of the NY Bight to that FMP. For instance, an FMP with 5% of its revenue from a potential WEA would be given a higher index number than an FMP where only 0.5% of the revenue came from the area. The RUI also factored in fishing vessel transit

routes based on 2016 automatic identification system (AIS) data to better understand potential impacts to fisheries access. More information on vessel transit routes, and fisheries transit in particular, is presented in the Maritime Navigation section. Although recreational fishing data was not included in determining the RUI, BOEM’s overall analysis considered recreational fishing areas identified in the New Jersey Sport Fishing Atlas.³⁸ The “cooler” blue areas indicate a lower relative economic importance across the top 6 commercial fisheries.

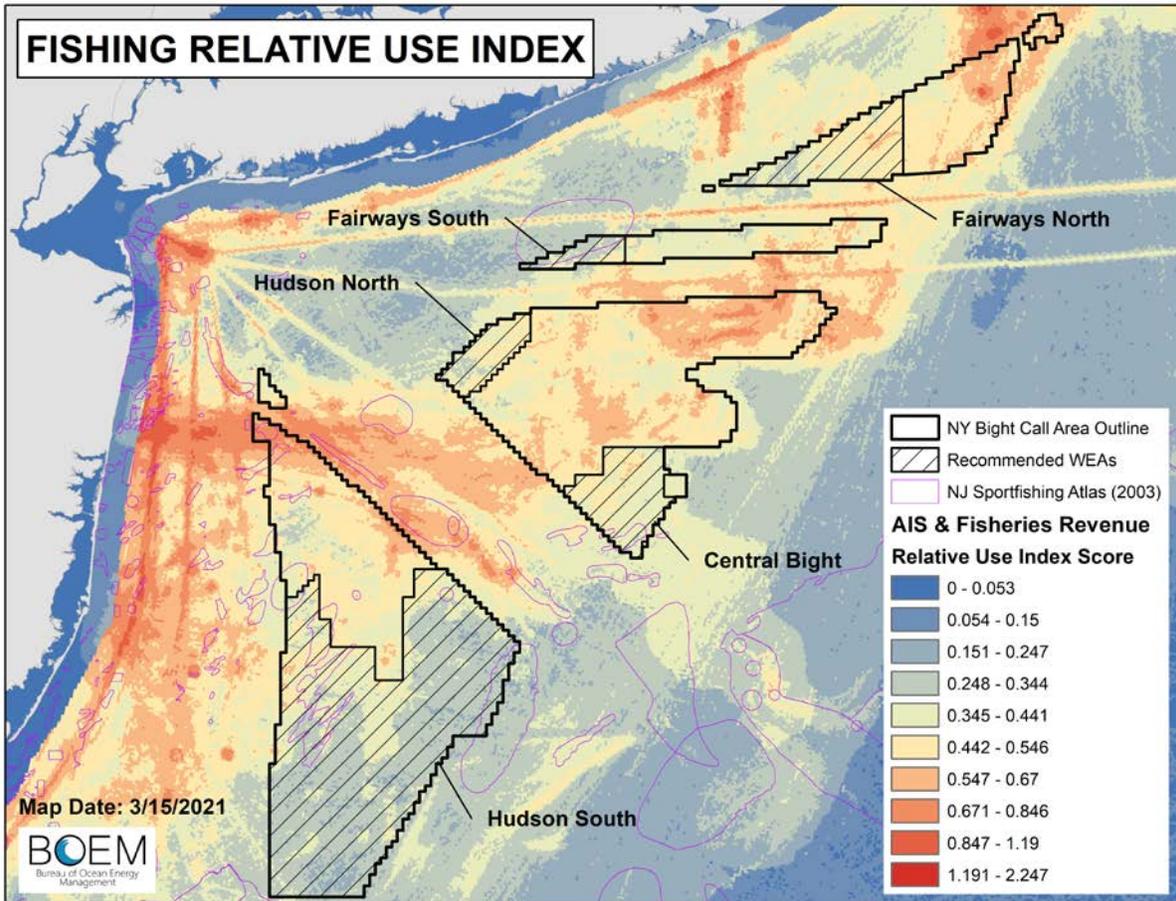


Figure 5: Fisheries Relative Use Index

c) *The Cold Pool*

At the November 28, 2018, NY Bight Task Force meeting, and at subsequent meetings and workshops, BOEM received input regarding the importance of summer thermal ocean stratification (aka the “cold pool”) to fisheries production and its seasonal patterns and questions on how offshore wind development may affect this oceanographic feature. The “cold pool” refers to an annual phenomenon of a band of cold bottom water extending from Georges Bank to

³⁸ A more detailed description of BOEM’s methodology and recommendations for fishing that also address comments received from the Call for Information and Nominations can be found on the BOEM website for the NY Bight (<https://www.boem.gov/NY-Bight/>); <https://www.state.nj.us/dep/gis/digidownload/metadata/statewide/sportfishing.htm>

near Cape Hatteras as a remnant of winter-cooled shelf water that persists through the summer months as warming stratifies the surface water.³⁹ The thermal stratification is driven by seasonal changes in the water column, and its annual evolution and spatial structure varies by location.⁴⁰ There have been a few recent studies in European waters (Schultze et al. (2020)) that have looked at the impacts of offshore wind facilities on thermal stratification. Additionally, BOEM is currently funding a modelling study to assess impacts of offshore wind energy facilities on oceanographic processes within and near to the southern New England lease areas that is near completion.

Current evidence suggests that while offshore wind facilities may cause local mixing of the water column,^{41,42} there is no clear consensus that offshore wind facilities would have a significant impact on this phenomenon on a regional scale. In addition, the annual and spatial variability of the “cold pool” is not fully understood, making delineation difficult. Thus, BOEM has decided not to use it as a factor to differentiate areas within the Call Area at this planning stage. However, impacts to this oceanographic feature will be considered in future leasing and project review decisions, as more information becomes available.

2. *Maritime Navigation*

Commercial vessels 65 feet or greater in length are required to carry AIS transponders. BOEM conducted a review of 2011-2017 AIS trackline and density data within the Call Areas to determine historic vessel usage patterns and identify how they may conflict with potential offshore wind energy development. BOEM shared the findings with area operators and harbor safety committees and sought their comments. Three main areas of concern emerged: the navigational complexity for deep draft vessels within traffic lanes, deep draft vessels entering or exiting traffic lanes, and tug and towing vessels crossing the Call Areas.⁴³ BOEM also considers vessel transit, using AIS and Vessel Monitoring System (VMS) data.

In June 2020, the USCG published an Advanced Notice of Proposed Rulemaking (ANPRM) for “Shipping Safety Fairways Along the Atlantic Coast.”⁴⁴ This ANPRM included traffic lanes previously described in the 2016 Atlantic Coast Port Access Route Study (ACPARS), as well as a tug and towing lane crossing the NY Bight. Further, USCG published two notices of study to conduct Port Access Route Studies (PARS), one for the Seacoast of New Jersey,⁴⁵ and the other

³⁹ Houghton et al 1982; Lentz 2017

⁴⁰ Lentz 2017

⁴¹ Carpenter, J.R., L. Merckelbach, U. Callies, S. Clark, L. Gaslikova, and B. Baschek. 2016. Potential impacts of offshore wind farms on North Sea stratification. PLoS ONE 11(8):e0160830. Cazenave, P.W., R. Torres, and J.I. Alen. 2016. Unstructured grid modelling of offshore wind farm impacts on seasonally stratified shelf seas. Progress in Oceanography 145(2016):25–41.

⁴² Schultze, L., L. Merckelbach, S. Raasch, N. Christiansen, U. Daewel, C. Schrum, and J. Carpenter. 2020. Turbulence in the Wake of Offshore Wind Farm Foundations and Its Potential Effects on Mixing of Stratified Tidal Shelf Seas. Presented at Ocean Sciences Meeting 2020, San Diego, California.

⁴³ A “traffic lane” is a more encompassing term, including TSSs, fairways, and other formally designated routing measures.

⁴⁴ “Shipping Safety Fairways Along the Atlantic Coast (Advanced Notice of Proposed Rulemaking).” Federal Register 85:119 (June 19, 2020) p. 37034. Docket No. USCG-2019-0279.

⁴⁵ “Port Access Route Study: Seacoast of New Jersey Including Offshore Approaches to the Delaware Bay, Delaware (Notice of Study).” Federal Register 85:198 (October 13, 2020) p. 64507. Docket No. USCG-2020-0172.

for the Northern NY Bight.⁴⁶ These two studies combined encompass the whole of the NY Bight Call Areas.

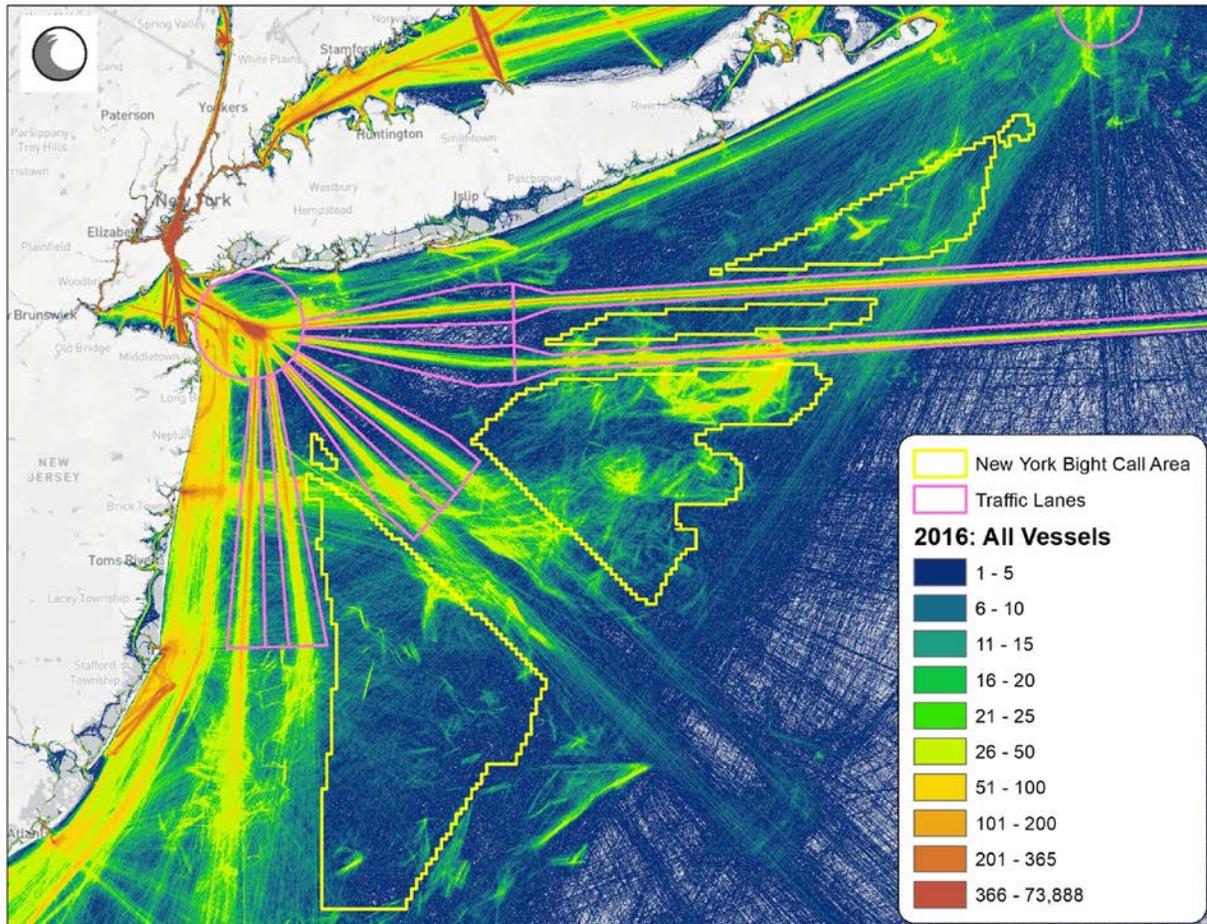


Figure 6: AIS counts for all vessels carrying AIS transponders in 2016.⁴⁷

⁴⁶ “Port Access Route Study: Northern New York Bight (Notice of Study).” Federal Register 85:125 (June 29, 2020) p. 38907. Docket No. USCG-2020-0278.

⁴⁷ AIS transponders are mandated on all commercial vessels, including commercial fishing vessels, in excess of 65 feet in length.

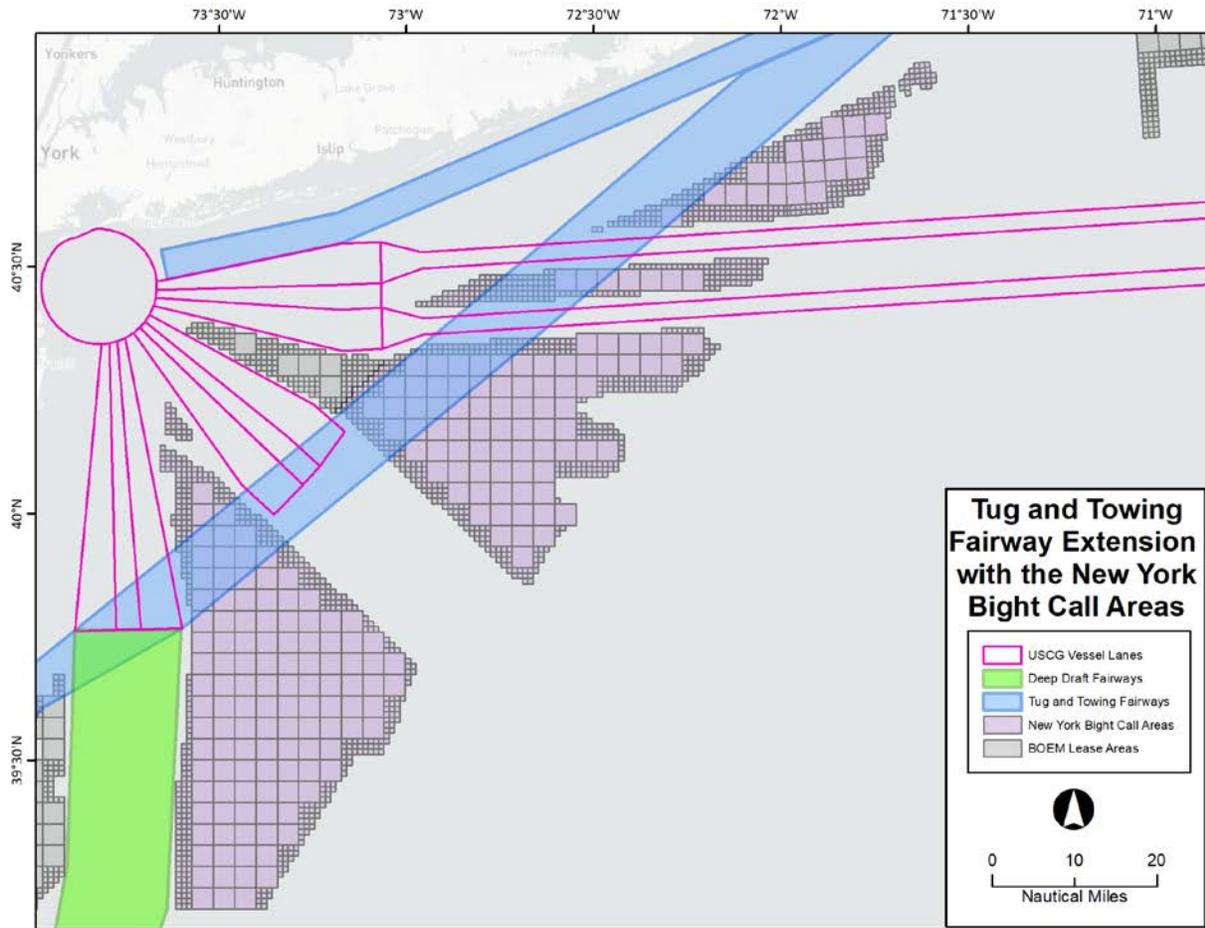


Figure 7: ANPRM Fairways near the BOEM Call Areas

a) Deep Draft Vessels Within Traffic Lanes

The NY Bight contains three Traffic Separation Schemes (TSS) that join in a precautionary area near the entrance to New York Harbor. A pair of directionally separated fairways feed into the northernmost TSS from the east, as depicted in Figure 6. TSSs are internationally recognized traffic lanes formally designated by the USCG and typically used by cargo vessels, tankers, cruise ships, and other deep draft vessels. Deep draft commercial traffic almost exclusively use the TSSs to enter or leave New York Harbor. A 2016 economic study conducted by the Port Authority of New York and New Jersey found that the Port and its neighboring counties handled more than 8,500 deep sea vessel transits in 2016 alone, making it one of the busiest container ports in the United States.⁴⁸

Small and quick moving vessel traffic (e.g., commercial fishing vessels) and large, slow moving traffic (e.g., tugs and barges) frequently cross the three TSSs. Though these crossing vessels are required by international and domestic collision regulations to stay clear of deep draft vessels

⁴⁸ Port Authority of New York and New Jersey. (2017, April). *2016 Port Trade Statistics*. Retrieved from <https://www.panynj.gov/port/trade-stats.html>

using the TSSs, the USCG and commercial vessel operators informed BOEM that navigational complexity may increase as a result of two factors.

First, fishing vessel operators state that they are sometimes not at the helm, despite vessel operator rules, especially if vessels have a single operator and the vessel is actively fishing. Second, due to inclement weather conditions and the size of crossing vessels, it may be more difficult to detect small crossing vessels from the bridge of a deep draft vessel. The largest cargo vessels can require several miles of sea space to stop and/or avoid collisions. Deep draft vessel operators (and tanker operators in particular) have also expressed concerns that wind turbines may cause shadowing effects on their radars, essentially “hiding” crossing fishing vessels during times of poor visibility and reducing the potential reaction time of the larger vessels. For these reasons, the USCG recommends in its Marine Planning Guidelines⁴⁹ that there be no surface occupancy within 5 nmi of the terminus of a TSS nor within 2 nmi of the edges of a traffic lane.⁵⁰

b) Deep Draft Vessels Entering or Exiting Traffic Lanes

As depicted in Figure 7, deep draft vessels in the NY Bight tend to stay within the designated TSS lanes throughout their charted boundaries. Once the official TSS lanes end, however, vessels tend to adjust course to take the most direct route to their destinations. This pattern was particularly evident in the middle TSS (Ambrose-Hudson Canyon-Ambrose), and the TSS closest to New Jersey (Barnegat-Ambrose-Barnegat).

If the Hudson North and South Call Areas were fully developed with offshore wind farms, a funneling effect would likely occur in which vessels continue to travel along the regulated TSS trajectory until they reach the edge of the developed area and then take a more direct route to their destination. This would result in increased concentrations of vessels between the two Call Areas, in a space where there are no internationally designated lanes or separation zones. Spatially prohibiting vessels from proceeding directly to their destination would also result in increased vessel travel time and fuel costs.

Additionally, the June 2020 ANPRM includes a Deep Draft Fairway at the terminus of the Barnegat-Ambrose-Barnegat TSS. Though no part of the Call Areas is in conflict with this Fairway, it is possible that one (or both) of the PARS currently being conducted in the area may recommend additional fairways that conflict with the Call Areas or with future WEAs.

⁴⁹ United States Coast Guard. (2015, July 8). *Atlantic Coast Port Access Route Study*.

⁵⁰ The Marine Planning Guidelines do not constitute enforceable rules denying surface occupancy in those areas. If a leased area fell within the Marine Planning Guideline Buffers, the USCG would review a lessee’s Navigation Safety Risk Assessment (submitted with its COP) to determine the level of risk for surface occupancy within the Marine Planning Guideline Buffers. Bureau of Ocean Energy Management. (2018, October 19). *Summary Report: Bureau of Ocean Energy Management’s Offshore Wind and Maritime Industry Knowledge Exchange*.

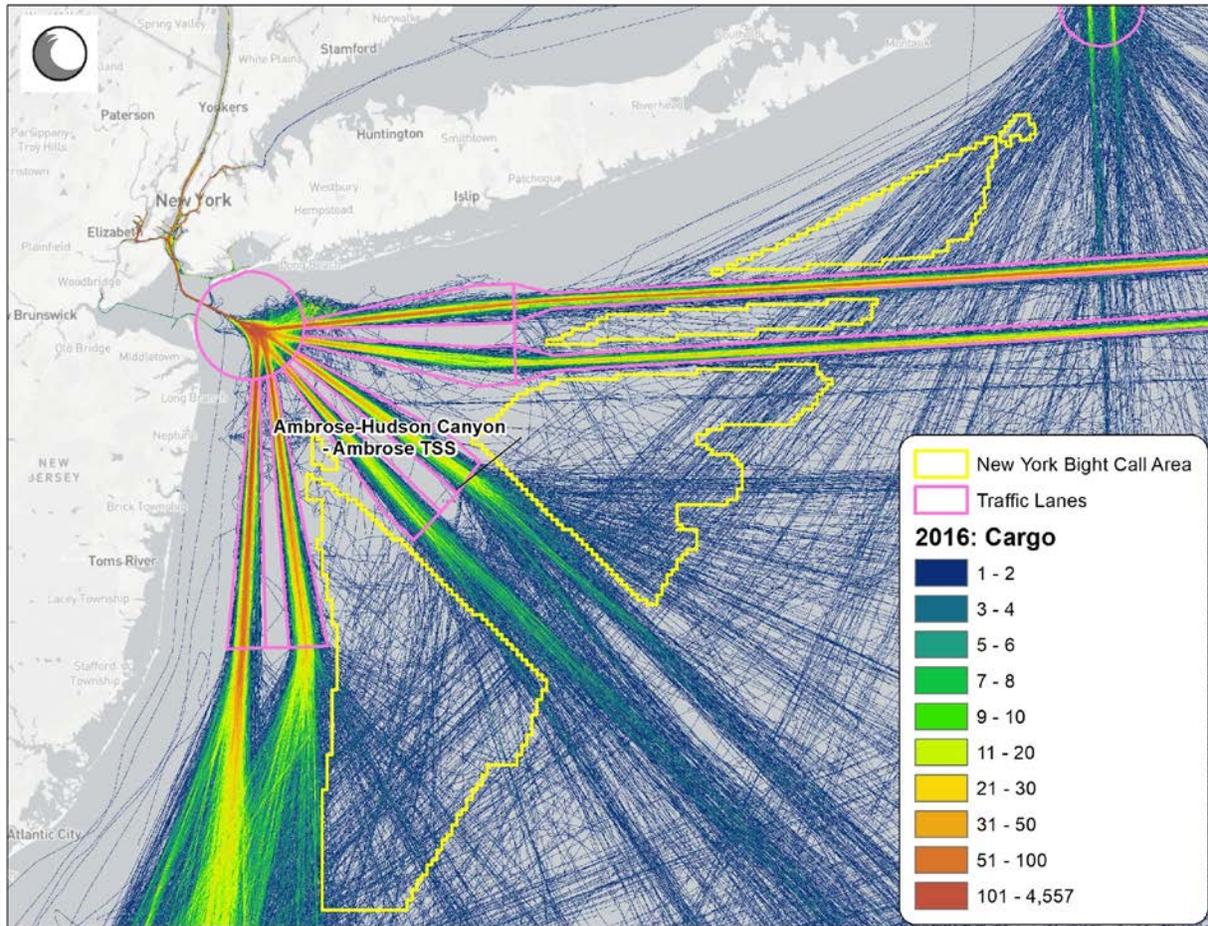


Figure 8: AIS Counts for all Cargo Vessel Traffic in the New York Bight in 2016.

c) Tug and Towing Vessels Within the NY Bight

Although tug and towing vessels historically stay near the shore due to calmer sea states, comments from stakeholders, such as the American Waterways Operators, indicate that these vessels are starting to travel farther offshore as tug and barge maneuverability improves with the advancement of integrated and articulated tug and barges. In 2015-2016, there was an average of 15 tug or towing transits through the Call Areas per month, with up to 27 in July 2015.⁵¹ As tugs become better able to handle offshore conditions, preferring to avoid the busy shoreline, vessel operators anticipate such vessels to continue to use this direct path.⁵²

With completion of its ACPARS in 2016, the USCG began the process of formally designating additional traffic lanes in the Atlantic, known as fairways. This process was furthered by the publication of the ANPRM for “Shipping Safety Fairways Along the Atlantic Coast.” BOEM

⁵¹ Marine Cadastre. (2018). 2009-2017 National AIS at 1 Minute Intervals. Retrieved from: <https://marinecadastre.gov/data/>

⁵² American Waterways Operators. (2018, July 30). *Re: Commercial Leasing or Wind Power on the Outer Continental Shelf in the NY Bight -- Call for Nominations (BOEM-2018-0004)*. Docket comment: BOEM-2018-0004-0095.

had met several times in 2018, at both the leadership and staff level, with members of USCG's Marine Transportation Systems to discuss the impacts of potential future traffic lanes on current and potential future leases. The USCG's preliminary maps include a potential lane for the tug and towing traffic that crosses the NY Bight, as shown in Figure 9.⁵³ The potential tug and towing lane depicted in the preliminary maps is exactly located in the same position as the ANPRM tug and towing lane.

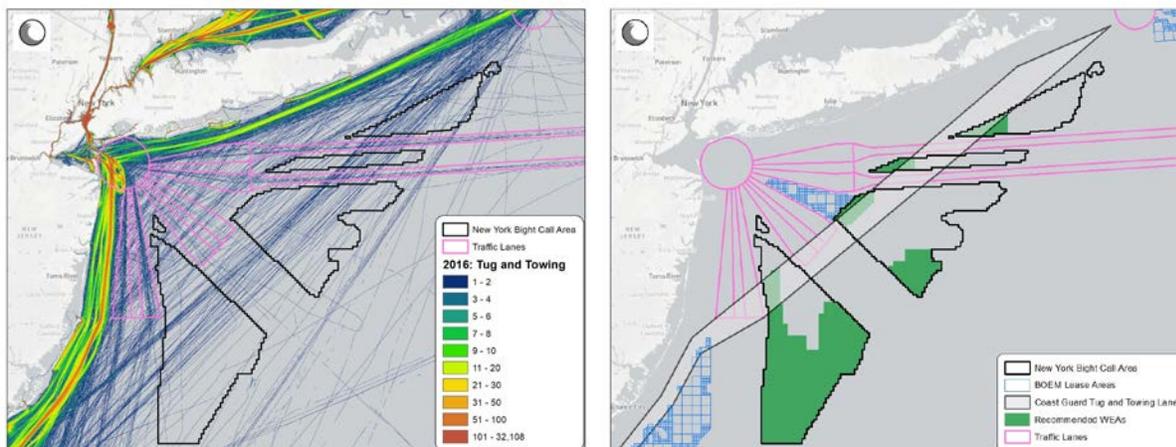


Figure 9: Tug and Tow Traffic and the Potential Towing Lane as of November 2018.

d) Fishing Vessel Transit in the NY Bight

Although fishing vessels are represented in the AIS data described above, they are under-represented due to the fact that only vessels 65 feet and greater are required to carry AIS. To help address this concern NYSERDA conducted outreach with the fishing industry beginning in January 2019 culminating in a 2020 report that included proposed transit corridors and best management practices as shown in Figure 10.⁵⁴ These proposed transit corridors should be further considered in the proposed lease area delineation should WEAs be identified and the leasing process commence.

⁵³ George Detweiler. (2018, November 29). *U.S. Coast Guard's Presentation at the Intergovernmental Renewable Energy Task Force for the NY Bight*. Retrieved from: <https://www.boem.gov/NY-Bight-Fairways-Presentation/>

⁵⁴ NYSERDA. (2020, June). *New York Bight Transit Lanes Survey, Workshop, and Outreach Summary*.

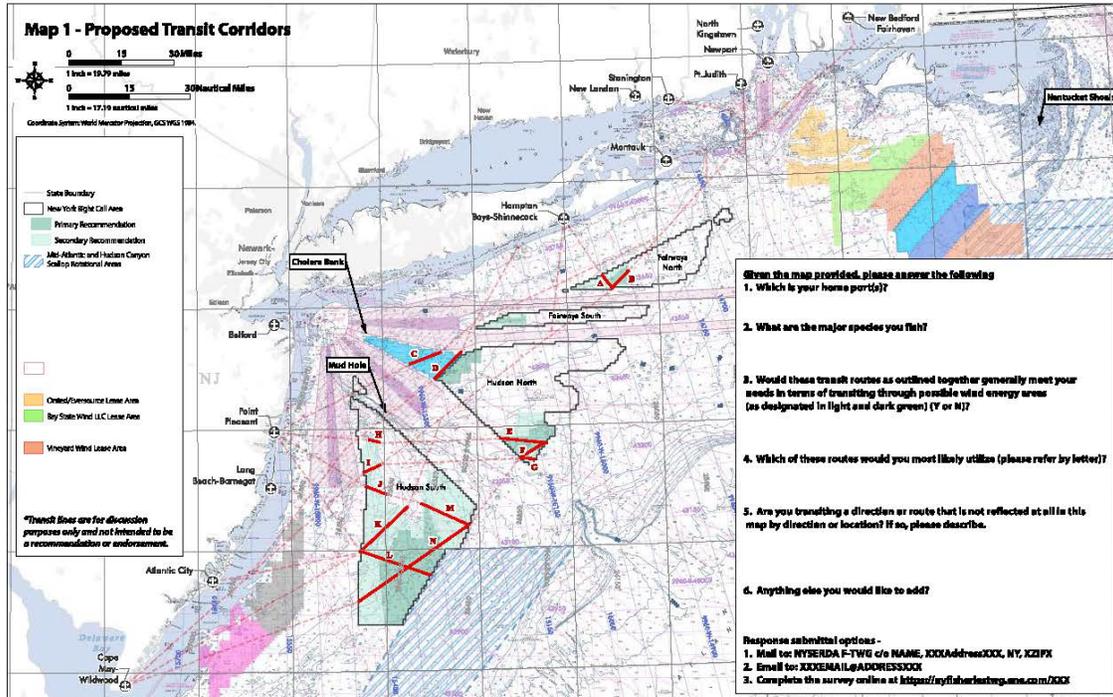


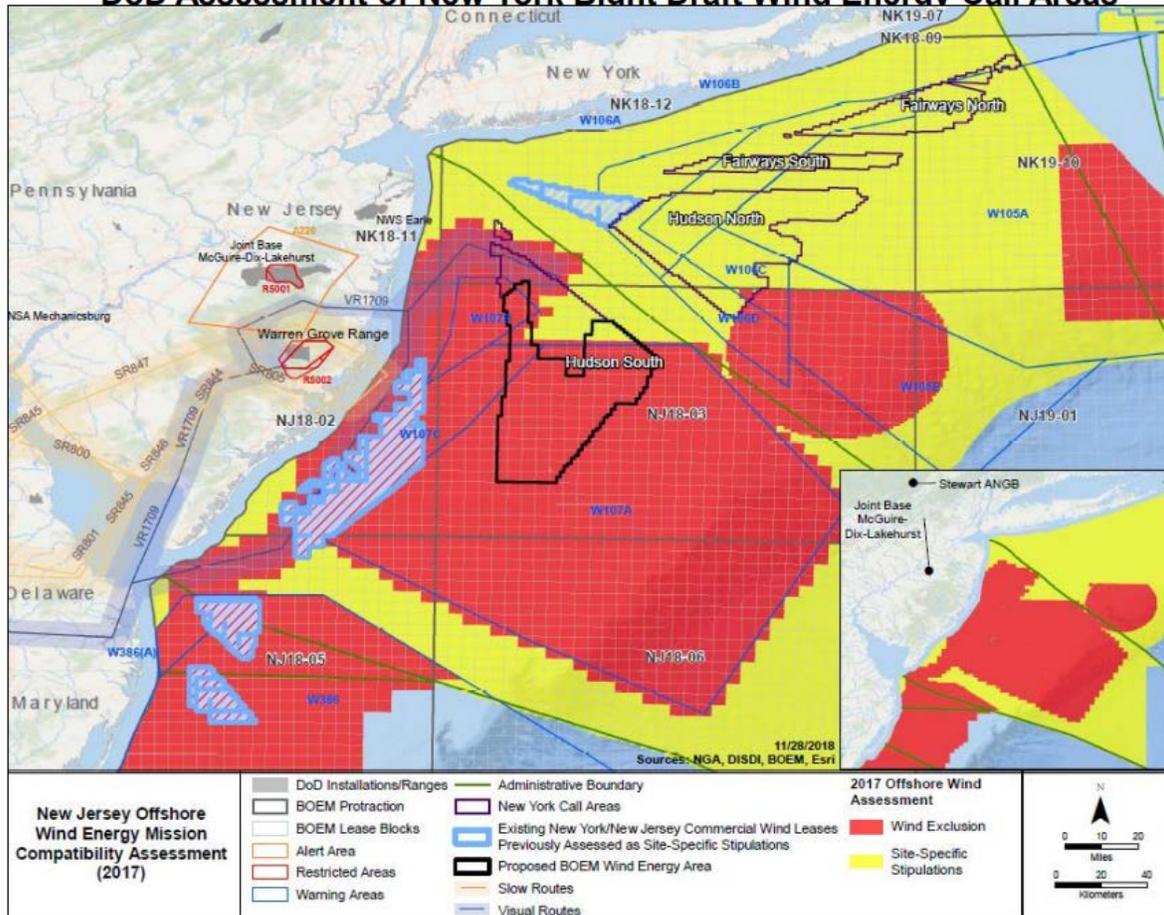
Figure 10: Consolidated transit lanes as illustrated in the NYSERDA Report

3. Department of Defense

As part of BOEM's ongoing coordination with the DOD, the DOD provided an initial wind energy compatibility assessment (2017) of the areas offshore the North Atlantic coast. DOD presented the map shown in Figure 11 at the November 28, 2018, NY Bight Task Force meeting. Since the initial 2017 DOD assessment, BOEM continued to work with the Military Aviation and Installation Assurance Siting Clearinghouse to deconflict existing and future activities identified by DOD, particularly the Department of the Navy's Marine Corps training exercises. On December 15, 2020, DOD provided an updated assessment, illustrated in Figure 12.

UNCLASSIFIED

DoD Assessment of New York Bight Draft Wind Energy Call Areas



UNCLASSIFIED

Figure 11: Preliminary DOD Offshore Wind Compatibility Assessment as presented by the DOD at the November 28, 2018, New York Bight Task Force Meeting.

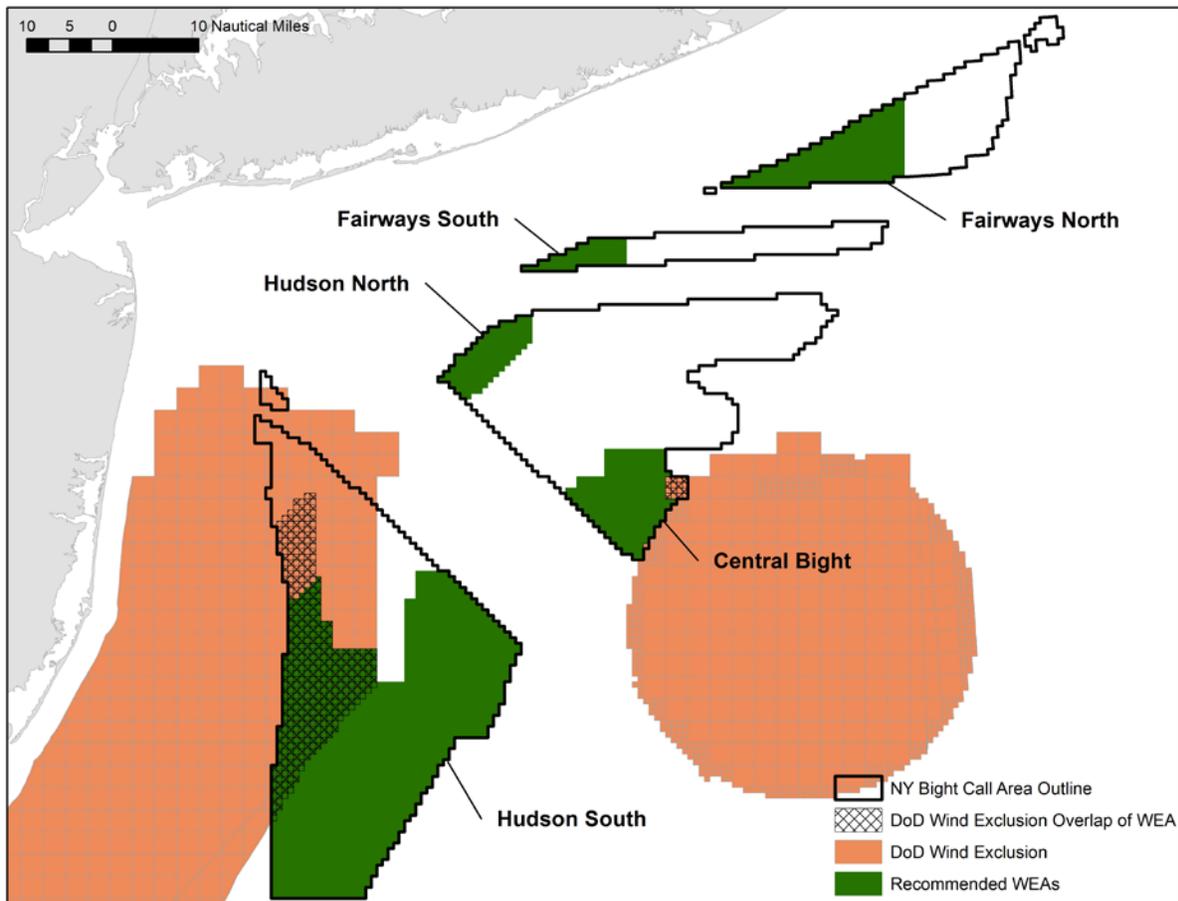


Figure 12: December 2020 DOD Offshore Wind Compatibility Assessment

DOD identified a portion of the Hudson South Call Area as “Wind Exclusion” due to potential conflict with Marine Corps CH-53E Helicopter mid-air refueling exercises. Such exercises occur between 800-5,000 feet in elevation, and portions of this training area could overlap with the potential rotor sweep zone of an offshore wind turbine. In addition, DOD identified potential impacts to U.S. Air Force NEXRAD weather radar if wind turbines exceed 1,000 feet above sea level within the Hudson South Call Area. An area of overlap between the DOD Wind Exclusion areas and the Call Areas has been removed in the Recommended WEAs to reduce this conflict. Further, BOEM will continue to work with the U.S. Air Force to ensure site-specific stipulations are implemented to mitigate impacts to NEXRAD weather radar should the leasing process move forward.

Development of offshore wind in the Fairways North and South, and Hudson North Call Areas may require the development and implementation of site-specific stipulations after identification of the WEAs. Such stipulations may be necessary to mitigate potential impacts to the North American Aerospace Defense (NORAD) Command’s air surveillance radar. Such stipulations would be identified during BOEM’s future coordination with DOD if a lease is issued in these areas and a Construction and Operations Plan is submitted for approval.

4. *Additional Considerations*

BOEM considered several other potential factors that did not significantly influence the spatial orientation of the recommended WEAs. These factors were already adequately addressed through the designation of the Call Area and/or will be further analyzed later in the BOEM process. These factors include visual impacts; the presence of avian species; marine mammals and other protected species; and radar, cables, and other existing infrastructure. BOEM's analysis of these factors is briefly described below.

a) Visual Impacts

Hundreds of important coastal scenic, historic, and recreational resources; historic properties (properties either listed on or determined eligible for listing on the NRHP as defined in Section 106 of the National Historic Preservation Act (NHPA)); tribal properties and treasured seascapes; commercial interests dependent on tourism; and the private property of coastal residents all have viewsheds that could potentially be adversely affected by offshore wind energy developments within the NY Bight Call Areas. The number of affected resources, properties, and interests and the extent of impacts depends on project siting. Based on the extent and degree of potential onshore visibility demonstrated through the NYSERDA visualization study (particularly at night from Federal Aviation Administration (FAA) safety lighting), stakeholders have raised concerns that visual impacts from turbines sited within 20 miles from these properties could occur to such a level as to not be resolvable through future mitigation measures. However, the extent of visual impacts can depend on project specifics such as wind turbine number, size, spacing, and configuration; as well as potential design measures such as paint colors and aircraft detection lighting systems, all of which would be fully analyzed in the event a lease(s) is issued and a COP(s) is submitted. Of the total 849,727 acres identified as WEAs, 54,490 acres are located within 20 statute miles from shore.

BOEM has therefore determined that potential impacts to viewshed from offshore wind facilities are an issue that would be further analyzed during BOEM's review of a COP. Under BOEM's phased process for renewable energy development, review of project-specific visual impacts under both Section 106 of the NHPA and NEPA does not occur until BOEM considers approval a COP.

b) Marine Protected Species

BOEM's broad scale analysis indicates that wind development within the Call Areas poses a minimal risk to marine mammal diversity and even lower risk to overall cetacean abundance and diversity because most species have habitat preferences for waters farther offshore than the Call Areas.

Five species of large whales listed as endangered and four species of sea turtles listed as threatened or endangered under the Endangered Species Act (ESA) are found in the vicinity of

the NY Bight.⁵⁵ There is no critical habitat for any endangered and threatened species in the NY Bight. Three of the endangered whale species are primarily found in deeper waters seaward of the Call Areas.⁵⁶ Additionally, North Atlantic right whales (NARWs) and fin whales are considered to be seasonally “common” in the areas examined. In providing comments on these areas, NOAA identified a biologically important feeding area (BIFA) off Montauk Point for fin whales; BOEM’s analysis also identified these areas as a potentially important feeding area for NARWs.⁵⁷ BOEM did not include the BIFA in the recommended WEAs.

Overall, BOEM determined that wind energy development within the Call Areas poses low risks to marine mammal diversity and very low risks to overall cetacean abundance and diversity because most species have habitat preferences for waters beyond the continental shelf edge and outside the Call Areas.⁵⁸ Likewise, BOEM determined that existing regulatory mechanisms to protect NARWs from vessel strikes appear adequate. BOEM also determined that site-specific mitigations to impacts on marine protected species would be identified at later stages in the development process, such as through lease stipulations and terms and conditions of COP approval.⁵⁹

Loggerhead turtles are also considered to be seasonally “common” in the proposed Call Areas, with other turtle species occurring with less frequency in the area. However, no known “hotspots,” migratory corridors, nor nesting beaches exist in the vicinity of the Call Areas.⁶⁰ Similar to marine mammals, BOEM determined that wind energy development in the Call Areas poses very low risks to sea turtle abundance and diversity because most species have habitat preferences outside of the Call Areas. Additionally, existing regulatory mechanisms appear adequate and site-specific mitigations to impacts will be identified at later stages in the development process.

c) *Avian Species*

BOEM’s analysis found that 11 seabird species are present at a level of relatively moderate density during at least one season in the Call Areas.⁶¹ None of these species are listed under the ESA, and none of these species were found at relatively high densities. Based on this

⁵⁵ Additional information on seabird presence in the Call Area is available in BOEM’s study *Modeling At-Sea Occurrence and Abundance of Marine Birds to Support Atlantic Marine Renewable Energy Planning: Phase I Report* available at <https://www.boem.gov/ESPIS/5/5512.pdf> ; NYSERDA’s *Birds and Bats Study* available at <https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Studies-and-Surveys> ; and the Northeast Ocean Data Portal here <https://www.northeastoceandata.org/>

⁵⁶ Sperm whales, Blue whales and Sei whales.

⁵⁷ See note 15 for maps of the BIFA.

⁵⁸ An overview of BOEM’s analysis, including maps of marine protected species abundance is available here: <https://www.boem.gov/Subject-Matter-Presentation-Visual-Impacts-and-Avian-and-Marine-Protected-Species-BOEM/>

⁵⁹ BOEM will further consider vessel speed restrictions in the development of lease stipulations for any future leases awarded in the Call Areas.

⁶⁰ NYSERDA’s Marine Mammals and Sea Turtles Study contains relevant analysis. It is available at: <https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Studies-and-Surveys>

⁶¹ Common Loon, Common Murre, Common Tern, Cory’s Shearwater, Double Crested Corm, Dovekie, Great Black Back Gull, Herring Gull, Laughing Gull, Northern Gannet, Wilson’s Petrel. 47 total bird species were present in the Call Area. The remaining 36 species are present at densities lower than moderate.

information, BOEM determined that impacts to seabirds should be addressed on a site-specific basis at the COP review stage as opposed to during this broader planning Area ID stage.⁶²

d) Radar

BOEM identified and considered the existing and available information related to weather, coastal air navigation, and vessel navigation radar in the NY Bight.⁶³ Additionally, BOEM received comments identifying potential locations and measures for effective mitigation. The information analyzed did not reveal portions of the Call Areas requiring exclusion due to radar usages.⁶⁴ In addition, site-specific impacts and concerns are better addressed through coordination with DOD, FAA, and NOAA which will occur during the COP review stage and consider mitigation techniques,⁶⁵ at site-specific levels.⁶⁶ Therefore, BOEM did not use radar impacts to exclude areas when identifying the recommended WEAs in the NY Bight.

e) Cables, Pipelines, and other Infrastructure

The presence of in-service submarine cables in portions of the Call Areas increases risk to offshore wind energy development. However, BOEM has decided against excluding portions of the Call Areas due to the presence of subsea cables because proven technical solutions exist to reduce the risks to both potential wind energy facilities and existing infrastructure. Technical solutions include separation schemes between existing and new renewable energy infrastructure and maintenance of sufficient cable burial depth (1.5-2 m) to protect both the cable and other seabed users. In addition, early communication and outreach to the owners of existing infrastructure can reduce risk factors.⁶⁷

f) Wind Resource/Wake Effects

BOEM determined that wake effects should not influence the delineation of WEAs within the Call Areas. The most frequently occurring and consistent winds in the Call Areas come from the southwest direction.⁶⁸ Therefore, wind energy facilities directly northeast of each other are more

⁶² Additional information on seabird presence in the Call Area is available in BOEM's study *Modeling At-Sea Occurrence and Abundance of Marine Birds to Support Atlantic Marine Renewable Energy Planning: Phase I Report* available at <https://www.boem.gov/ESPIS/5/5512.pdf> ; NYSERDA's *Birds and Bats Study* available at <https://www.nyserra.ny.gov/All-Programs/Programs/Offshore-Wind/Studies-and-Surveys> ; and the Northeast Ocean Data Portal here <https://www.northeastoceandata.org/>

⁶³ A map of high frequency radar locations in the NY Bight is available here: <https://www.boem.gov/Initial-Technical-and-Navigation-Analysis/>

⁶⁴ BOEM received comments from the Mid-Atlantic Regional Association Coastal Ocean Observing System, the Rutgers University Center for Ocean Observing Leadership, the Long Island Commercial Fishing Association, National Coalition for Fishing Communities, and the State of New Jersey on potential impacts.

⁶⁵ Examples of mitigations include modifying the turbine installation layout, stealth treatment on main turbine elements, changes to radar data processing and adaptive scanning, among others.

⁶⁶ NYSERDA also recommended a site-specific consultation process to address impacts on radar in their paper *New York State Area for Consideration for the Potential Locating of Offshore Wind Energy Areas* available at <https://www.nyserra.ny.gov/All-Programs/Programs/Offshore-Wind/Studies-and-Surveys>

⁶⁷ As referenced in BOEM's Construction and Operations Plan Guidance-Attachment H: *Coordination Efforts Relating to Existing Telecommunications Cables* <https://www.boem.gov/COP-Guidelines/>

⁶⁸ Wind frequency analysis based on NOAA's National Data Buoy Center data; Station 44025 located 30 nmi south of Islip, NY. The station data is available at https://www.ndbc.noaa.gov/station_page.php?station=44025

likely to experience a reduction in energy production throughout the year. The highest speeds in the Call Areas come from the west-northwest direction during the winter season; therefore, a project built just to the southeast of another may experience a significant reduction in energy production. BOEM believes such concerns can be mitigated by requiring sufficient wake recovery distance between any leases to maintain equitable project development scenarios for multiple developers. Lease areas can be refined from WEAs at the PSN and FSN stages, and/or conditions can be placed on COP approvals for projects in adjoining lease areas. It is therefore premature to eliminate areas from consideration for WEAs because of wake effects.

VI. Rationale for Wind Energy Area Recommendations

A. Introduction

To facilitate the Area ID planning process, BOEM prefers to maintain flexibility by identifying more (and in some cases, larger) WEAs. In recommending the following WEAs, BOEM also aims to be responsive to the region's renewable energy goals, increase the potential for competition in future offshore wind energy solicitations, and develop a predictable leasing pipeline.

BOEM understands that some of the recommended WEAs (or portions thereof) may ultimately not be offered as lease areas. For instance, BOEM is aware that some of the recommended areas overlap with proposed navigation corridors. As described in the navigation section above, the USCG is currently pursuing a regulatory initiative to convert historical tug and tow vessel routes into safety fairways. BOEM recognizes that the designation of a safety fairway is a lengthy public rulemaking process that may change based on public input. For the purposes of this effort, BOEM is working closely with the USCG and stakeholders and believes that there is space within the NY Bight to safely accommodate both offshore wind and tug and tow traffic aspirations. The process to designate this fairway is in its early stages, and the fairway width and location are still undetermined. Given this uncertainty, BOEM has decided to include areas with potential overlap for further consideration and will continue to work with the USCG in the planning process to identify an outcome that provides for both navigation safety and opportunities for offshore wind development.

BOEM also recognizes that coastal states closest to a lease area are afforded many potential opportunities related to offshore wind industry development, including workforce and supply chain development. Conversely, potential impacts to existing ocean users generally fall most heavily on the state whose coastline is closest to the leased area. The inclusion of WEAs in proximity to both the NY and NJ coastlines facilitates more equitable distribution of these positive and negative offshore wind development externalities.

BOEM's WEA recommendations are a result of balancing key existing interests and resources in the region, energy goals, and anticipated future uses based on the best available information and statutory obligations. Areas proposed for leasing will be identified in a PSN, as discussed in Section IV. BOEM will consider, in its final leasing decision, the results of the NEPA analysis and associated consultations, as well as relevant new information that it receives between its WEA designation and issuance of the FSN. Additionally, BOEM maintains its flexibility to

offer only a portion of the WEAs for lease, leaving unselected areas for future consideration. This section discusses the rationale for the recommendation of each WEA and, where appropriate, the exclusion of portions of the Call Area that BOEM is not designating as WEAs at this time. As different areas had different balancing factors, select area-specific issues are discussed in more detail for specific recommended WEAs below.

B. Fairways North Wind Energy Area

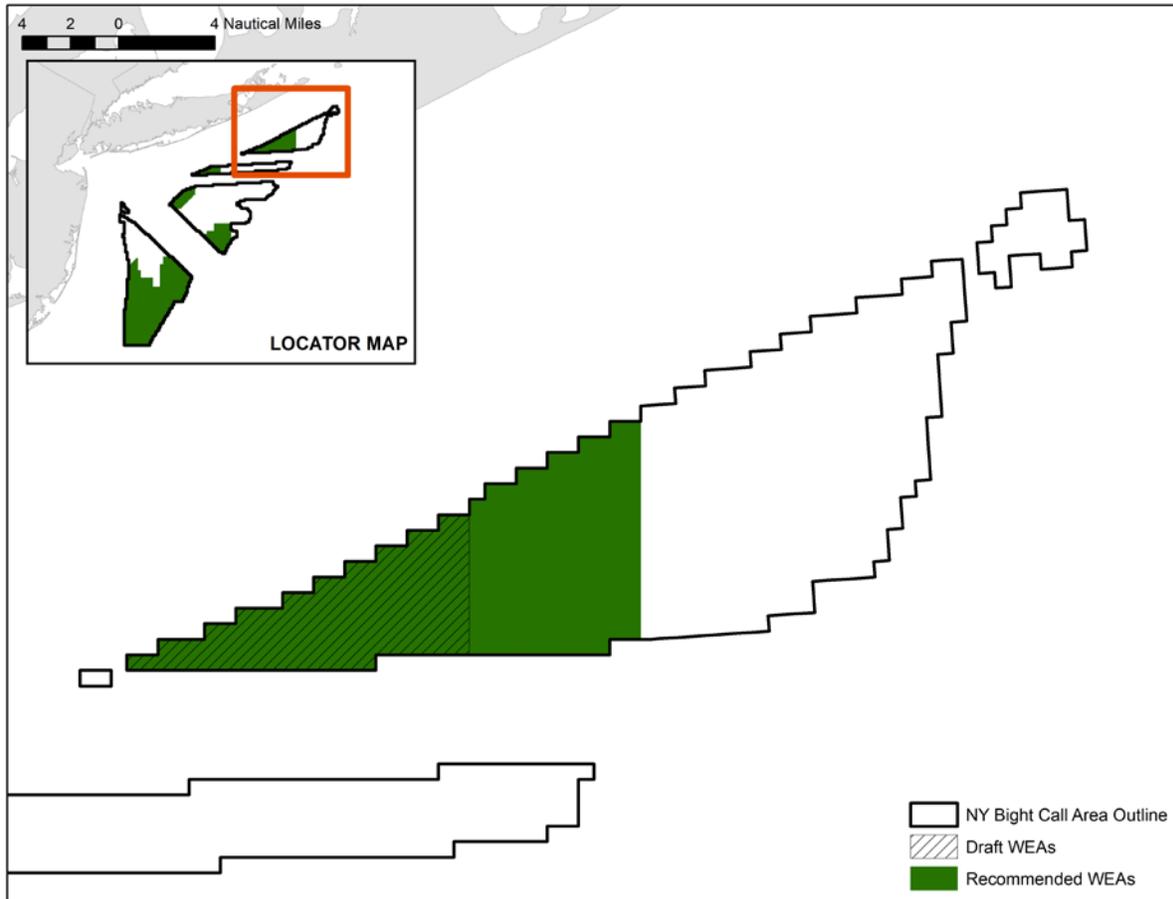


Figure 13: Fairways North Wind Energy Area

The recommended Fairways North WEA was chosen by balancing several factors, the most prominent being commercial fishing, navigation, marine protected species, and commercial viability.

1. Fisheries

The RUI for fisheries showed relatively high usage in the northern and eastern portion of the Fairways North Call Area, with fisheries usage decreasing towards the west. As a result, the western third of the area was determined to be relatively less impactful to fisheries interests. However, the State of New York stated in their comments on the NY Call that Fairways North had the “greatest concern to the highest number of individual fishermen” and recommended it be removed from further consideration.

2. Navigation

Two main factors were drivers from a navigation perspective. The first is a recommendation from the ACPARS Marine Planning Guidelines for a buffer along the sides of a traffic lane. While not a traffic lane, the Nantucket to Ambrose Safety Fairway sees considerable vessel traffic. BOEM therefore considered a 2 nmi buffer between the fairway and the recommended WEA but decided not to implement the buffer in this recommended WEA and to rely on future navigation safety risk assessments to evaluate site-specific safety issues.

3. Marine Protected Species

NOAA identified a BIFA off Montauk Point for fin whales adjacent to the Fairways North Call Area and suggested that a 10 nmi buffer be implemented to protect this resource. The buffer overlaps with the eastern portion of this Call Area. When considered in tandem with high fishing use in the same area, BOEM decided to exclude the eastern portion of this Call Area from the recommended WEA.

4. Commercial Viability

BOEM received three nominations in response to the Call in this region (Avangrid Renewables, East Wind, and Horizon Wind Power). The nominations were concentrated in the central portion of the Call Area.⁶⁹ The recommended WEA overlaps with a portion of each nomination.

BOEM acknowledges that NYSERDA’s Area for Consideration document, which was submitted to BOEM on October 2, 2017, excludes both Fairways North and South in part because NYSERDA concluded that development would likely require considerable electrical transmission costs. As described by the State of New York;

“... small, discontinuous sites are not cost effective, and may create diseconomies of scale. Larger sites allow for increased capacity and generation, which enable higher revenues and cost savings from installation and operations and maintenance costs.”⁷⁰

Following the November 2018 Task Force meeting, Avangrid Renewables wrote to BOEM stating that “an efficient and effective offshore wind industry can only be secured if developers

⁶⁹ NY Bight commercial nominations received in response to the Call. <https://www.boem.gov/NY-Bight-Nominations/>

⁷⁰ Letter from NYSERDA, dated December 12, 2018 RE: Analysis - Project Relative Economics

are able to bring forward sufficiently large projects” in order to allow for economies of scale. They did not view Fairways North or South as large enough to support a viable project, but suggested we continue study of the area in the future. Conversely, Horizon Wind Power asserted that 200-400 MW projects are viable and sought inclusion of a WEA within the Fairways North Call Area.

5. Changes from Draft to Recommended WEA

In order to be responsive to state requests and provide additional renewable energy leases, BOEM revised the boundary of the draft WEAs provided to the Task Force in November 2018 in Fairways North WEA to include an area that is not conflicted with USCG or DOD interests. The recommended WEA has an estimated potential installed capacity of over 1 GW, which is sufficiently large for commercial development. Additionally, inclusion and expansion of this area also helps to address concern of the distribution of the positive and negative externalities of offshore wind development throughout the NY Bight, particularly considering New York’s recent increase in stated goals for offshore wind. Further study into commercial viability and potential developments in ship-routing measures will inform potential lease sales within this WEA.

C. Fairways South Wind Energy Area

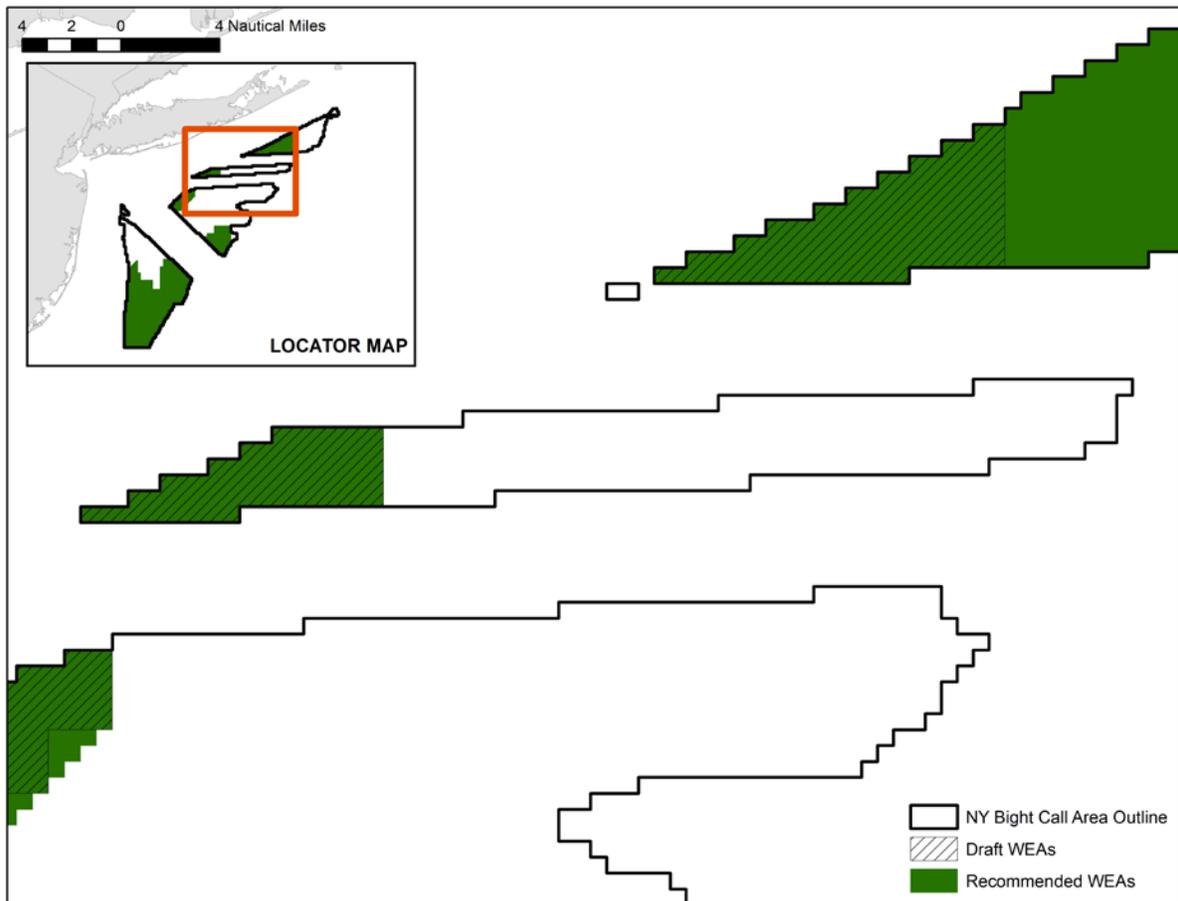


Figure 14: Fairways South Recommended Wind Energy Area

The recommended Fairways South WEA was delineated as a result of balancing several factors, the most prominent being commercial fishing, navigation, and commercial viability.

1. Fisheries

The fishing RUI in this region depicts relatively high usage in the eastern portion of the Fairways South Call Area, with fisheries usage decreasing towards the west. The western portion has relatively few (1-2) submarine cables that could present future commercial fishing gear conflicts due to the use of cable protection measures. This was an area recommended for leasing by the members of the surfclam and ocean quahog fishing industry. Potential downsides of this area are that it overlaps with a New Jersey Prime Fishing Area (Yankee Spot), which New Jersey Fisheries Management Administration and the Littoral Society asked to be removed from consideration. The State of New York said the area is less important than Fairways North, but still has sufficient conflicts with commercial fishermen to suggest the whole area be removed.

2. Vessel Navigation

BOEM recognizes that the proximity of this recommended WEA to the Ambrose to Nantucket traffic lanes presents a concern to mariners in this region, particularly to vessels that may be experiencing mechanical or technical difficulties and require more room to maneuver. Based on AIS trackline analysis, however, a majority of vessels travel within the bounds of the established traffic lanes. Site-specific navigation studies will be conducted if the site is proposed for development, which will inform the siting of any future wind energy facility. Additionally, this recommended WEA is within a potential fairway identified by the USCG. At this time, BOEM has decided to keep this area in consideration and allow for continued dialogue regarding this specific area's suitability to safely and efficiently support offshore wind energy development.

3. Commercial Viability

The recommended WEA in Fairways South represent the smallest area considered for inclusion. As suggested in the section above, there is debate on what a minimum size for a viable project may be. However, procurements for projects around or less than 200 MW indicate that there may continue to be demand for smaller projects. Furthermore, this area overlaps with two nominations from developers, and could be preferred by smaller and/or locally-based entities. The recommended Fairways South WEA could also be combined with a nearby WEA (such as Hudson North) to form one larger lease area.

4. Changes from Draft to Recommended WEA

The recommended WEA in Fairways South is the same as the draft WEA presented at the November 28, 2018, NY Bight Task Force meeting.

D. Hudson North Wind Energy Area

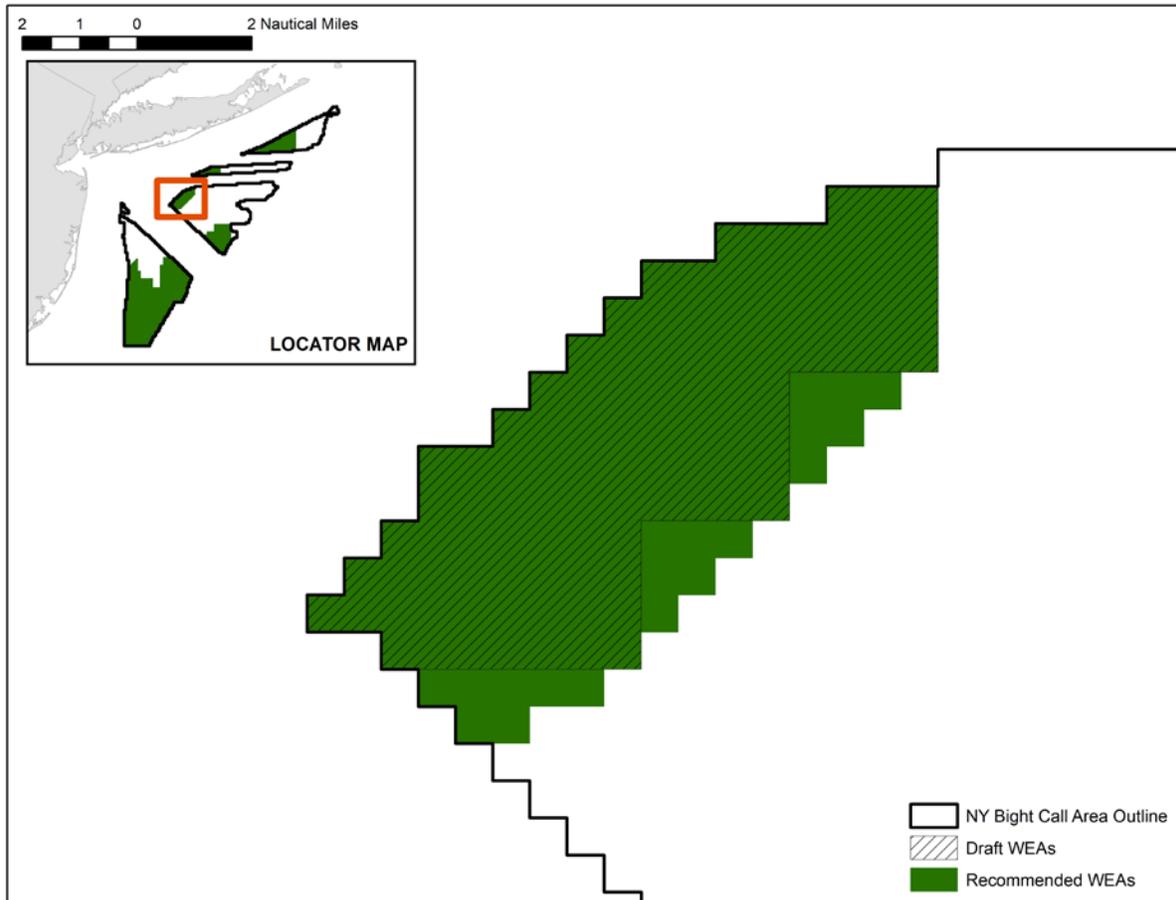


Figure 15: The Hudson North Recommended Wind Energy Area

The recommended Hudson North WEA was delineated as a result of balancing several factors, the most prominent being commercial fishing, commercial viability, and navigation.

1. Fisheries

The RUI determined that the Hudson North WEA has less relative fishery value than other portions of the Hudson North Call Area. The area experiences higher fishing activity during certain periods, especially among scallop fishermen, but it was recommended for offshore wind development by members of the surfclam/ocean quahog industry and the recreational fishing community.

2. Commercial Viability

At approximately 43,000 acres, this WEA is smaller than most areas that BOEM has leased in the past. Nonetheless, it may be suitable for development not only due to opportunities for offtake from neighboring states, but due to its relatively shallow waters, proximity to

transmission solutions, and consistent wind speeds which may increase its installed capacity per acre. In addition, this area overlaps with three nominations received in response to the Call.

3. Navigation

The recommended Hudson North WEA conflicts with the tug and tow extension safety fairway currently under consideration by the USCG. The outcome of that process may influence future leasing decisions in this area.

In addition, BOEM considered the existing traffic patterns in the region through analysis of AIS trackline data. As depicted in Figure 7, BOEM observed a notable “spreading” pattern wherein vessels have a tendency to stay within a TSS but veer off towards their destination once they have exited. This creates a fan-like effect at the exits to each of the TSS lanes in the region. The inclusion of this area may require traffic to enter or exit the TSS further south, but the exclusion of the central portion of the Hudson North Call Area may allow for some spreading of vessel traffic north of the recommended Central Bight WEA. BOEM anticipates that these two WEA recommendations, in tandem, will help minimize the alteration of vessel routes entering and exiting the Hudson-Ambrose-Hudson TSS.

4. Changes from Draft to Recommended WEA

At the November 28, 2018, NY Bight Task Force meeting, several commenters expressed concern that the draft Hudson North WEA was not of sufficient size for viable commercial development. The State of New York specifically suggested that the irregular boundary of the draft WEA could cause unintended challenges to survey and development activities and suggested that BOEM consider making the WEA a more uniform shape. BOEM has responded by adjusting the eastern boundary to eliminate the irregularity. Filling in the saw-like eastern boundary with a more uniform edge also allows more area to be included without significantly impacting navigation. The boundary adjustment also slightly increased the size of the WEA to a conservatively estimated capacity of approximately 520 MW.

E. Central Bight Wind Energy Area

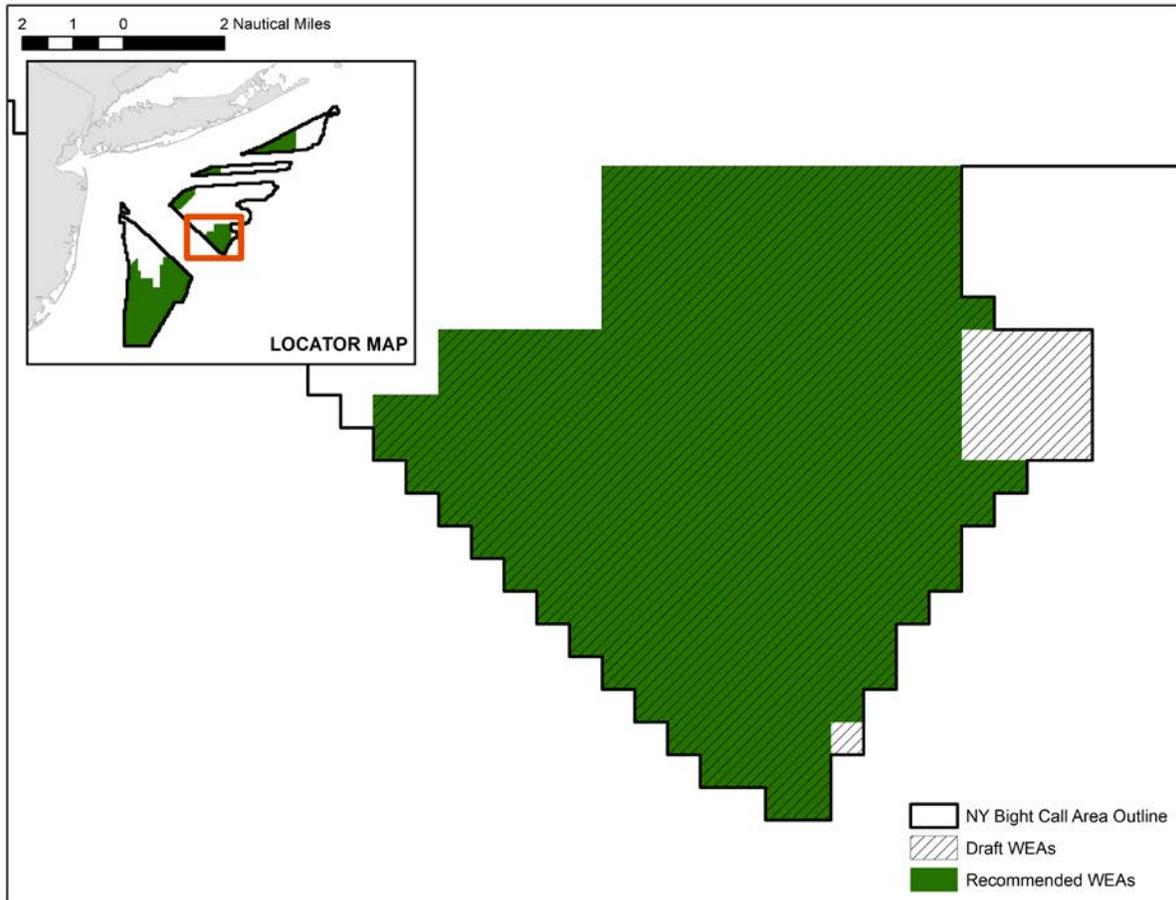


Figure 16: The Central Bight Recommended Wind Energy Area

The recommended Central Bight WEA was delineated as a result of balancing several factors, the most prominent being fisheries, navigation, and commercial viability.

1. Fisheries

The Central Bight WEA contains higher RUI scores relative to the other recommended WEAs, but the Central Bight WEA presents less fisheries conflict than portions of the Hudson North Call Area that BOEM has excluded from consideration. New Jersey Prime Fishing Areas (identified as George's Bank) which follows the 180 feet (30 fathom) depth contour, and 5 submarine cables which could create fishing gear conflicts due to the need for cable protection measures. It should also be noted that the George's Bank area is immediately adjacent to areas recommended for removal from consideration by the New Jersey Marine Fisheries Administration. Despite low usage by most of the commercial fisheries included in the RUI, this area presents potential exposure to the scallop fishery, which has higher revenue than other fisheries, as discussed above.

2. *Navigation*

The recommended Central Bight WEA does not conflict with the potential tug and tow safety fairway, but could conflict with existing deep draft vessel traffic patterns if fully built out. Deep draft vessels could avoid offshore wind installations by traveling to the north of the Central Bight WEA. During the 2015-2016 period, the recommended Central Bight WEA alone saw a monthly average of 30 cargo vessels and 11 tankers, with more vessels transiting on either side of the area. Most of these vessels were inbound to New York, with the remainder crossing or outbound. Site-specific navigation concerns would be assessed as part of a Navigational Risk Assessment at the COP stage, which, based on additional analysis of traffic concerns and proposed turbine layouts, may result in the imposition of mitigation measures.

3. *Commercial Viability*

This area was recommended as a WEA because it provides enough acreage for a commercially viable project, while avoiding potential conflicts with DOD activities and reducing potential conflicts with most of the fishing activities within the Hudson North Call Area. The WEA is relatively far from shore and in deeper waters, which may increase development costs relative to shallower sites closer to shore. However, when examined in relation to all of the existing uses, this area presents the least amount of conflict with offshore wind energy development. In addition, the recommended Central Bight WEA overlaps with one nomination submitted in response to the Call.

4. *Additional Factors Considered*

The Area for Consideration submitted by the State of New York included a majority of the recommended Central Bight WEA. However, the recommended WEA includes a 21,706-acre area along the eastern boundary with the Hudson Shelf Valley that New York excluded. At the November 28, 2018, Task Force meeting, New York requested that BOEM reconsider including a WEA in this area due to its sensitive biological characteristics.⁷¹ After reconsideration of this specific area, BOEM concluded that no new information was presented to change the original designation. Moreover, lease stipulations, permit conditions, and other mitigation mechanisms designed to protect marine species and their habitat in compliance with existing laws will likely address potential impacts at later stages.

5. *Changes from Draft to Recommended WEA*

The draft primary and secondary recommendations for the Central Bight WEA were combined to create an 84,688 acre recommended WEA. In consideration of the December 2020 DOD assessment and overlap of Wind Exclusion areas, one lease block and one aliquot were removed along the Eastern boundary of the Draft WEA to avoid this conflict.

⁷¹ <https://www.boem.gov/NYSERDA-Presentation/>

F. Hudson South Wind Energy Area

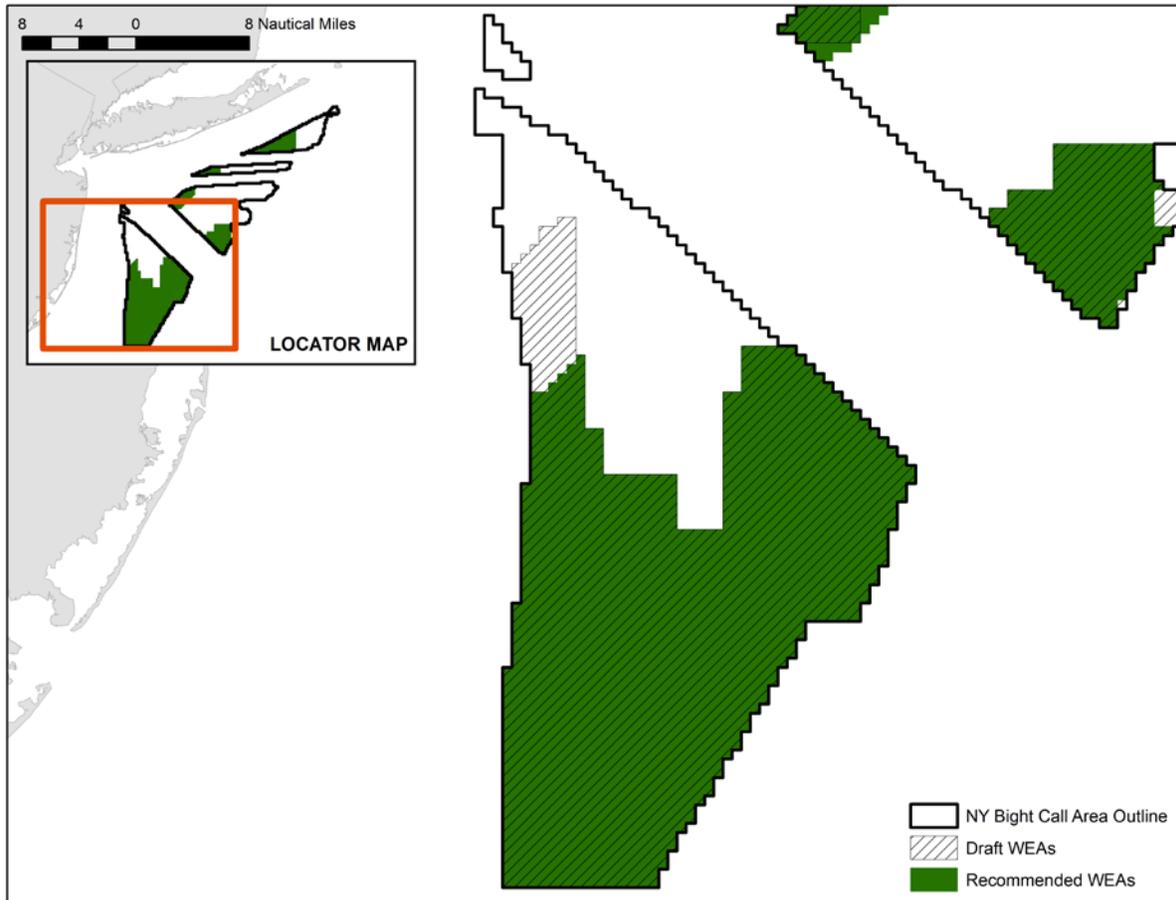


Figure 17: The Hudson South Recommended Wind Energy Area

The recommended Hudson South WEA was delineated as a result of balancing several factors, most prominently commercial fishing, navigation, commercial viability, and compatibility with DOD activities.

1. Fisheries

The recommended Hudson South WEA contains the largest contiguous area of relatively low RUI scores in the NY Bight. It also avoids several heavily fished areas in the north, central, and southern portions of the original Call Area. Members of the surfclam and ocean quahog industry identified not only portions of the area that they have historically fished, but also portions of the northeastern border as an area that would be compatible with offshore wind energy development and potential turbine layouts that would promote coexistence. However, locations not historically used by surfclam and ocean quahog fishermen are typically heavily fished for other species, notably scallops. The western edge of the recommended WEA contains diverse bathymetric features that support recreational fishing areas and is also historically fished by the surfclam and ocean quahog industry. However, scallop VMS data for 2015-2016 shows very

low scallop fishing in this area, as shown in Figure 18. This area also overlaps with a portion of an area the scallop industry recommended for leasing.

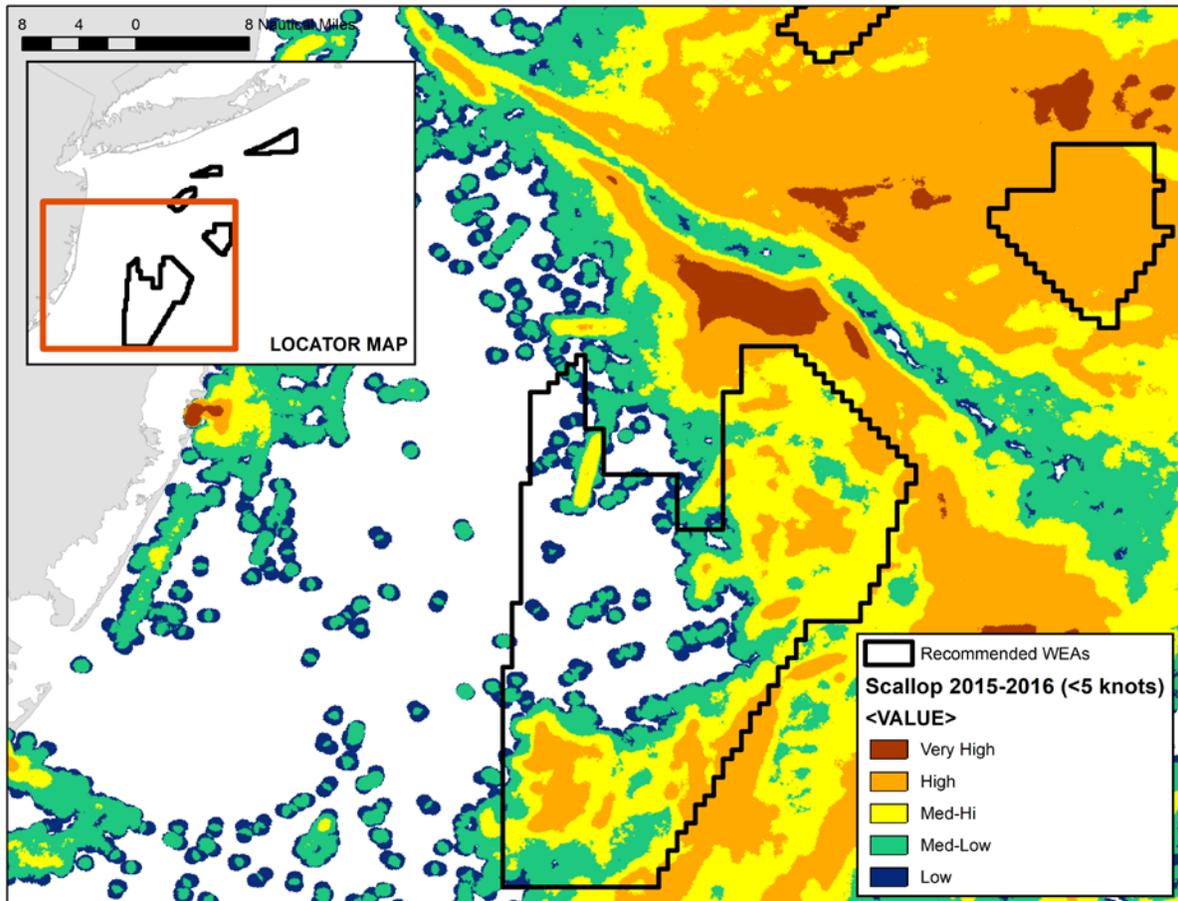


Figure 18: Scallop Fishing Intensity in Relation to the Call Areas

2. Navigation

The main considerations from a navigation perspective were the tug and tow safety fairway, existing deep draft vessel traffic patterns, and a USCG weapons training area. In consultation with the USCG, it is likely that even if it is possible to relocate portions of the proposed tug and barge safety fairway to deconflict the Hudson North and Fairways North and South areas, a portion of Hudson South would still be in conflict. As such, BOEM has removed the area of the Hudson South Call Area that conflicts with the proposed fairway (Figure 9). BOEM acknowledges that development of this recommended WEA may require deep draft vessels entering or exiting the adjacent TSSs from the south to travel farther prior to taking a more direct route to their destination. Due to vessel traffic concerns and the recommended Hudson South WEA's potential to support multiple lease areas, BOEM plans to examine the need and effectiveness of mitigation measures to facilitate existing uses and interaction between leases, such as transit lanes within the recommended WEAs and buffers between leases and/or TSSs, prior to lease area designation and sale. The USCG weapons training area in the northern

portion of the Hudson South Call Area, as well as relatively higher volumes of vessel traffic in that area, were factors in excluding that portion of the Hudson South Call Area from the WEA.

3. *Commercial Viability*

The Hudson South WEA had the greatest interest from developers in response to the Call, with 5 nominations. This WEA could support both the New York and New Jersey energy markets and their associated infrastructure. In addition, this area represents the largest contiguous acreage, potentially allowing for multiple lease areas that would both increase competition in the market and fulfill a significant portion of the demand from adjacent states. Finally, in its Master Plan, NYSERDA expressed a strong preference for inclusion of a large portion of this area.

4. *Department of Defense*

As noted above, DOD identified potential conflicts with Department of the Navy training and with radar used by the U.S. Air Force and NORAD. BOEM has eliminated areas that conflict with a majority of DOD activities in the Hudson South Call Area and will resolve remaining conflicts within the recommended WEAs during the process of identifying lease areas for a PSN, where certain areas may be excluded from leasing, and by developing site-specific stipulations in coordination with DOD.

5. *Changes from Draft to Recommended WEA*

The portion of the draft WEA which overlaps with the proposed USCG tug and barge safety fairway in Hudson South has been removed from the WEA recommendations. This area also overlaps with areas identified as a DOD Wind Exclusion zone in December 2020.

VII. Director Concurrence

Yes

No

AMANDA
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Director, Bureau of Ocean Energy Management

3/26/21

Date

**Appendix B: List of Consulting Parties and Potential Consulting Parties and Letter
Invitation Example**

National Historic Preservation Act Section 106 Confirmed Consulting Parties for the New York Bight Project are the following entities:

- Advisory Council on Historic Preservation
- Asbury Park
- Atlantic County, Department of Regional Planning and Development
- Atlantic Highlands Borough
- Atlantic Highlands Historical Society
- Beach Haven Borough
- Borough of Seaside Park
- Brick Township
- Brigantine Beach City
- Charlestown
- City of Long Beach
- City of Newport
- Delaware Tribe of Indians
- Historic Districts Council
- Keyport Borough
- Linwood
- Lucy The Margate Elephant
- Middletown
- Monmouth County
- National Park Service
- Neptune Township
- New Jersey Historic Preservation Office
- New Jersey Maritime Museum
- New Jersey Office of Planning Advocacy
- New York State Historic Preservation Office
- Preservation New Jersey
- Rhode Island Historical Preservation & Heritage Commission
- Stafford Township
- Suffolk County
- The Delaware Nation
- The Noyes Museum of Art
- Town of Brookhaven
- Town of Islip
- Town of Narragansett
- Town of Oyster Bay
- Village of Patchogue

The Bureau of Ocean Energy Management sent letters inviting the following entities to become National Historic Preservation Act Section 106 Consulting Parties for the New York Bight Project:

- Absentee-Shawnee Tribe of Indians of Oklahoma
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Mashantucket Pequot Tribal Nation
- Mashpee Wampanoag Tribe
- Mohegan Tribe of Connecticut
- Narragansett Indian Tribe
- Shawnee Tribe
- Shawnee Tribe of Oklahoma
- Shinnecock Indian Nation
- Stockbridge-Munsee Community, Wisconsin/Band of Mohican Indians
- The Delaware Nation
- The Narragansett Indian Tribe
- The Shinnecock Indian Nation
- Wampanoag Tribe of Gay Head (Aquinnah)
- The Advisory Council for Historic Preservation
- New Jersey Department of Environmental Protection, Historic Preservation Office
- New York State Historic Preservation Office
- Rhode Island Historical Preservation & Heritage Commission
- Aberdeen Township
- Absecon
- Absecon City
- Absecon Historical Society
- Absecon Historical Society, Inc.
- Absecon Lighthouse
- Allenhurst Borough
- Alliance for Coney Island
- American Irish Historical Society
- American Jewish Historical Society
- Amityville Historical Society
- Asbury Park
- Asbury Park Historical Society
- Atlantic City
- Atlantic City Convention Center
- Atlantic County
- Atlantic County Historical Society
- Atlantic County, Department of Regional Planning and Development

- Atlantic Highlands Borough
- Atlantic Highlands Historical Society
- Avalon Borough
- Avalon Historical Society
- Avalon History Center
- Avon-by-the-Sea Borough
- Barnegat Historical Society
- Barnegat Light Borough
- Barnegat Light Historical Society
- Barnegat Light Museum
- Barnegat Lighthouse State Park
- Barnegat Township
- Bay Shore Historical Society
- Bayonne Community Museum, Inc.
- Beach Haven Borough
- Bellport-Brookhaven Historical Society
- Belmar Borough
- Belmar Historical Society
- Berkeley Township
- Berkeley Township Historical Society and Museum
- Block Island Historical Society
- Borough of Brooklyn
- Borough of Manhattan
- Borough of Queens
- Borough of Staten Island
- Borough of The Bronx
- Bradley Beach Borough
- Bradley Beach Historical Society
- Brick Township
- Brick Township Historical Society
- Brigantine
- Brigantine Beach City
- Brigantine Beach Historical Museum
- Brigantine Historical Society
- Bronx County
- Bronx County Historical Society
- Bronx County Historical Society
- Brooklyn Historical Society
- Bureau of Safety and Environmental Enforcement
- Cape May
- Cape May City

- Cape May County
- Cape May Lighthouse
- Cape May Point Borough
- Caribbean Motel
- Charlestown
- Charlestown Historical Society
- City of Bayonne
- City of Bayonne Planning Board
- City of Hoboken
- City of Hoboken Historic Preservation Commission
- City of Jersey City
- City of Long Beach
- City of Long Beach
- Converse Cottage
- Crossroads of the American Revolution in New Jersey
- Deal Borough
- Dennis Township
- Dr. Edward H. Williams House
- Eagleswood Historical Society
- Eagleswood Township
- East Islip Historical Society
- Egg Harbor City
- Egg Harbor Township
- Emlen Physick Estate
- Friends of Asbury Park ESTC
- Friends of Barnegat Lighthouse
- Friends of Monmouth County Parks
- Friends of the Cape May Lighthouse
- Friends of the World War II Tower
- Galloway Township
- Greater Egg Harbor Township Historical Society
- Greater Cape May Historic Society
- Greater Cape May Historical Society
- Greater Egg Harbor Township Historical Society
- Greater Patchogue Historical Society
- Green-Wood Cemetery
- Hamilton Township
- Hammonton Town
- Harvey Cedars Borough
- Hereford Inlet Lighthouse
- Highlands Borough

- Hispanic Society of America
- Historic Cold Spring Village
- Historic Districts Council
- Historic House Trust of New York City
- Historical Society For the Preservation of the Underground Railroad
- Historical Society of East Rockaway and Lynbrook
- Historical Society of Galloway Township
- Historical Society of Highlands
- Historical Society of Islip Hamlet
- Historical Society of Ocean Grove
- Hoboken Historical Museum
- Hudson County
- Hudson County Historical Society
- Huntington Historical Society
- Incorporated Village of Lindenhurst
- Jamestown
- Jamestown Historical Society
- Jersey City Landmarks Conservancy
- Keyport Borough
- Keyport Historical Society
- Kings County
- Lacey Historical Society
- Lacey Township
- Lake Como Borough
- Lavallette Borough
- Linwood
- Linwood City
- Linwood Historical Society
- Little Compton
- Little Compton Historical Society
- Little Egg Harbor Township
- Loch Arbour Village
- Long Beach Historical and Preservation Society
- Long Beach Island Historical
- Long Beach Island Historical Association
- Long Beach Township
- Long Branch
- Long Branch Historical Museum Association
- Long Island
- Longport Borough
- Lower Township

- Lucy The Margate Elephant
- Madison Hotel
- Malverne Historical and Preservation Society
- Manasquan Borough
- Margate City
- Mastic Peninsula Historical Society
- Matawan Historical Society
- Middle Township
- Middlesex County
- Middletown
- Middletown Historical Society
- Middletown Township
- Middletown Township Historical Society
- Monmouth Beach Borough
- Monmouth County
- Monmouth County Historical Society
- Museum of Cape May County
- Nanticoke Leni-Lenape Tribal Nation
- Nanticoke Leni-Lenape Tribe
- Narragansett
- Narragansett Historical Society
- Nassau County
- Nassau County Historical Society
- Nassau Historical Society
- National Maritime Historical Society
- Neptune Township
- New Jersey Historical Society
- New Jersey Commission on Indian Affairs
- New Jersey Cultural Trust
- New Jersey Division of Archives and Record Management
- New Jersey Future
- New Jersey Historic Trust
- New Jersey Historical Commission
- New Jersey Historical Society
- New Jersey Lighthouse Society
- New Jersey Maritime Museum
- New Jersey Office of Planning Advocacy
- New Jersey State Museum
- New Jersey State Parks, Forests and Historic Sites
- New Shoreham
- New York Central Historical Society

- New York City
- New York City Department of Parks & Recreation
- New York City Landmarks Commission
- New York State Council of Parks
- New York State Parks, Recreation and Historic Preservation
- Newport
- Newport Historical Society
- New-York Historical Society
- North Wildwood
- North Wildwood City
- Northfield
- Ocean City
- Ocean City Historical Museum
- Ocean City Music Pier
- Ocean County
- Ocean County Historical Society
- Ocean Gate Borough
- Ocean Township
- Old Bridge Township
- Oyster Bay Historical Society
- Patriots for the Somers Mansion
- Pleasantville
- Pleasantville City
- Powhatan Renape Nation
- Preservation Alliance of Spring Lake
- Preservation Delaware
- Preservation League of New York
- Preservation New Jersey
- Queens County
- Queens County Historical Society
- Ramapough Lenape Indian Nation
- Ramapough Mountain Indians
- Raphael-Gordon House
- Rhode Island Historical Society
- Richmond County
- Richmond County Historical Society
- Ritz Carlton Hotel
- Roosevelt Island Historical Society
- Sea Bright Borough
- Sea Bright Historical Society
- Sea Girt Borough

- Sea Isle City
- Seaside Heights Borough
- Seaside Park Borough
- Ship Bottom Borough
- Somers Point
- Somers Point City
- South County History Center
- South Kingstown
- Spring Lake Borough
- Spring Lake Historical Society
- Squan Village Historical Society
- Stafford Township
- Staten Island Historical Society at Historic Richmond Town
- Stone Harbor Borough
- Suffolk County
- Suffolk County Historical Society
- Suffolk County Planning and Development
- Surf City Borough
- The Archaeological Society of New Jersey
- The Flanders Hotel
- The League of Historical Societies of New Jersey
- The Museum of Cape May County
- The Noyes Museum of Art
- The Sandy Hook Foundation
- Thomas Warne Museum/Madison-Old Bridge Township Historical Society
- Toms River Township
- Town of Amityville
- Town of Babylon
- Town of Brookhaven
- Town of Hempstead
- Town of Islip
- Town of Oyster Bay
- Tuckerton Borough
- Tuckerton Historical Society
- Twin Lights Historical Society
- U.S. Army Corps of Engineers
- Union Beach Borough
- Upper Township
- Ventnor City
- Village of Babylon Historical Society
- Village of Bellport

- Village of Brightwaters
- Village of Mastic Beach
- Village of Patchogue
- West Cape May Borough
- West Islip Historical Society
- West Wildwood Borough
- Westerly
- Westerly Historical Society
- Wildwood
- Wildwood City
- Wildwood Crest Borough
- Wildwood Crest Historical Society
- Wildwood Historical Society
- Woodbine Borough



May 3, 2021

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

RE: Invitation to consult on the New York Bight Lease and Right-of-Way/Right-of-Use Issuance located off the coast of New York, New Jersey, and Rhode Island; *response requested by no later than 30 days of receipt of this letter*

Dear [REDACTED],

On March 29, 2021, the Bureau of Ocean Energy Management (BOEM) announced that it had completed the Area Identification process to delineate the New York Bight Wind Energy Areas (WEAs), pursuant to 30 Code of Federal Regulations Part 585.211(b). Upon completion of National Historic Preservation Act (NHPA) Section 106 and National Environmental Policy Act (NEPA) reviews, BOEM may issue commercial wind energy leases within the New York Bight WEAs and grant rights-of-way or rights-of-use in support of wind energy development. BOEM has determined that the issuance of commercial and research wind energy leases and the potential granting of rights-of-way or rights-of-use constitutes an undertaking subject to Section 106 of the NHPA and, as such, BOEM will serve as the lead Federal agency for the NHPA Section 106 review.

This letter has three purposes:

- first, to invite Upper Township to be a consulting party to the Section 106 review;
- second, to provide information on the undertaking and the Preliminary Area of Potential Effect (PAPE) (Figure 1) to help inform your decision as to whether or not you wish to be a consulting party; and
- third, to provide information on next the next steps in the Section 106 process for parties choosing to participate.

BOEM retained the services of ICF Jones & Stokes, Inc (hereinafter ICF) as the contractor to facilitate the Section 106 consultation process. All Federal oversight and decisions will remain with BOEM. ICF's role in this Section 106 review is to execute various administrative and logistical tasks, including but not limited to coordinating communication with the consulting parties; distributing BOEM-approved documents; providing technical assistance; and hosting and facilitating meetings, webinars, or calls with consulting parties.

Invitation to Consult Under Section 106 of the NHPA

With this letter, BOEM invites you to be a consulting party to this project regarding potential impacts on historic properties. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 Code of Federal Regulations Part 800. The review

process, known as Section 106 review, is described at: <https://www.achp.gov/digital-library-section-106-landing/citizens-guide-section-106-review>.

By becoming a consulting party, you will be actively informed of steps in the review process, including public meetings, and your views will be actively sought. If you would like to be a consulting party to this project, please respond to Jessica Gabriel at NewYorkBight@icf.com or (503) 412-0431.

Definition of the Undertaking and Area of Potential Effect for the Undertaking

The proposed undertaking includes the issuance of commercial wind energy leases within the Final New York Bight WEAs and takes into account the execution of associated site assessment and site characterization activities within these commercial leases. Site assessment activities would most likely include the temporary placement of meteorological ocean buoys. Site characterization activities would most likely include geophysical and geotechnical, biological, and oceanographic surveys. Additionally, the retrieval of lost equipment may occur as necessary.

In addition to conducting surveys in the New York Bight WEAs, lessees and grantees would survey a minimum 300-meter-wide corridor centered on any anticipated cable locations to characterize the seabed locations where physical disturbances may occur (e.g., anchoring of vessels installing the cable or movement of the proposed cable location, if necessary). Because the leases or right-of-way grants considered as part of this undertaking have not been issued, BOEM is uncertain of the exact location of these cable surveys. However, BOEM can anticipate their geographic extent.

Power generated from potential New York Bight lease areas would need to be transmitted to shore, either directly from the lease areas by individual export cables to onshore cable landings and/or to offshore regional transmission system(s). Because power may be purchased from nearby states, these potential export cables and regional transmission system(s) are anticipated to be located offshore New Jersey, New York, and Rhode Island. Therefore, for the purposes of this undertaking, BOEM estimates cable surveys would occur in the PAPE between shore and the WEAs as far south as a line drawn between the southwestern corner of the Hudson South WEAs to Cape May, New Jersey and as far north as a line drawn between the northeast corner of the Fairways North WEA to the eastern edge of Narragansett Bay (Figure 1).

Next Steps

Please submit your request to become a consulting party ***no later than 30 days of receipt of this letter***. While you may also request to be a consulting party at a later date, this consultation may advance without your input and your opportunity to fully comment on each step of the process may be affected. If you are requesting consulting party status, please also include the contact information of one representative and one alternate from your organization to receive correspondence and attend meetings and indicate the nature of your organization's demonstrated interest in the undertaking or historic properties that may be affected by the undertaking. We

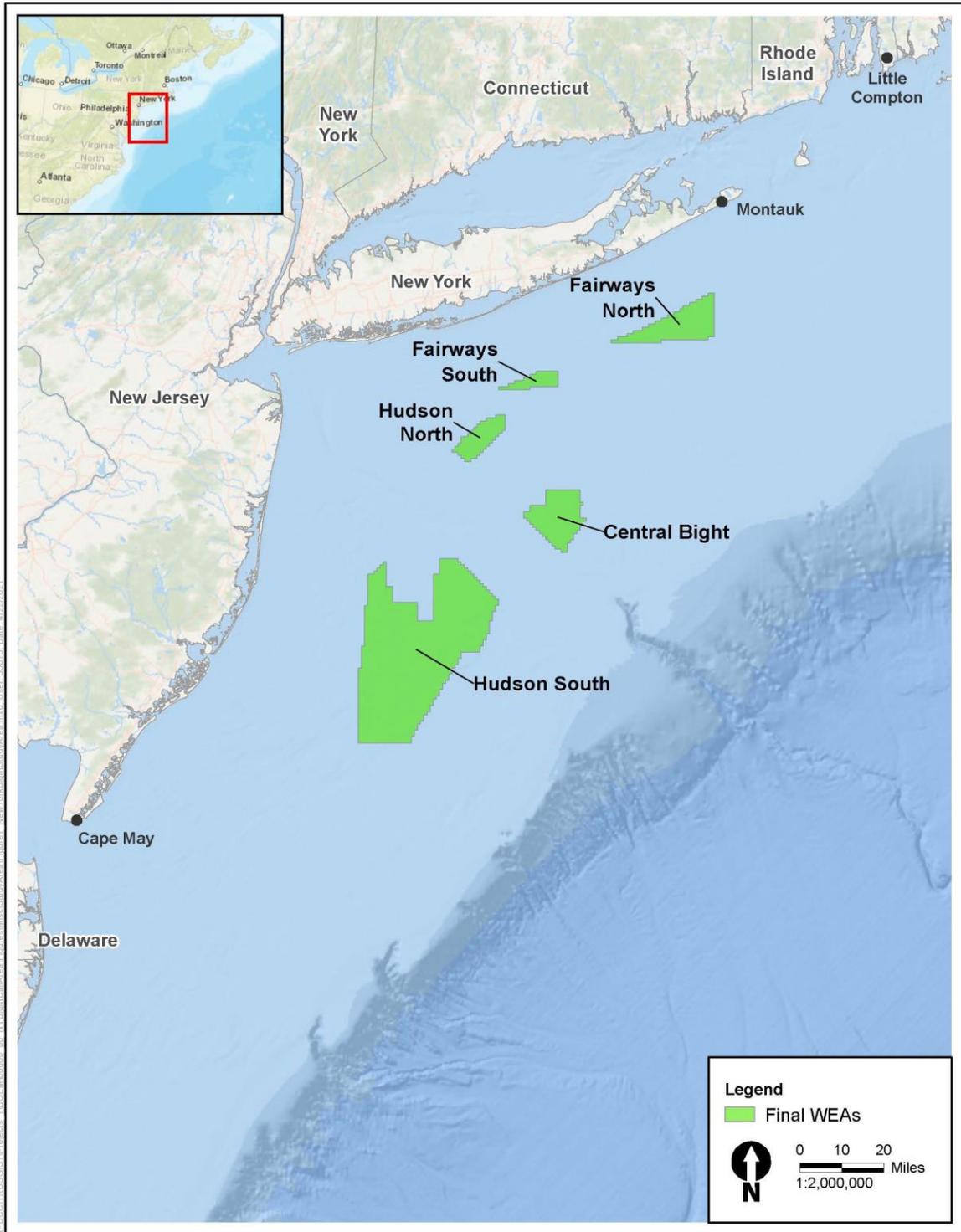
also request that you indicate your preferred correspondence method: hard copy correspondence by mail, via email, or both.

In your response, please provide any known information on regarding additional historic properties that may be present with the PAPE. This will help inform BOEM's Finding of Effect, which will be developed and distributed in August 2021. BOEM will then request comments and feedback within 30 days and distribute the Final Finding of Effect in September 2021.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jessica Gabriel".

Jessica Gabriel
New York Bight Section 106 Lead
ICF



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**Figure 1. Preliminary Area of Potential Effect
New York Bight Lease and
Right-of-Way/Right-of-Use Issuance**

Appendix C: Concurrence Letters from the New York and Rhode Island State Historic Preservation Offices



**Parks, Recreation,
and Historic Preservation**

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

July 12, 2021

Tait Elder
Section 106 Lead
ICF on behalf of BOEM
201 Mission St.
San Francisco, CA 94105

Re: BOEM
New York Bight Lease and Right-of-Way/Right-of-Use Issuance
21PR04112

Dear Tait Elder:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Based on this review, the SHPO concurs with your agency's determination that there will be No Historic Properties Affected by the proposed undertaking.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions, please contact me via email.

Sincerely,

Tim Lloyd, Ph.D.
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only



STATE OF RHODE ISLAND

HISTORICAL PRESERVATION & HERITAGE COMMISSION

Old State House 150 Benefit Street Providence, RI 02903

Telephone 401-222-2678
TTY 401-222-3700

Fax 401-222-2968
www.preservation.ri.gov

5 August 2021

Via email: newyorkbight@icf.com

J. Tait Elder
New York Bight Section 106 Lead
ICF

Re: New York Bight Wind Energy Area
Issuing of Commercial or Research Leases
Finding of No Historic Properties Affected

Dear Mr. Elder:

The Rhode Island Historical Preservation and Heritage Commission (RIHPHC) staff has reviewed the *Finding of No Historic Properties Affected for the Issuance of Commercial or Research Leases within the New York Bight Wind Lease Areas and Issuance of Right-of-Way and/or Right-of-Use and Easement Grants on the Outer Continental Shelf Offshore New York, New Jersey, and/or Rhode Island* (“the Finding Report”) that you provided.

The finding of no historic properties affected is predicated on the following, as stated in the Finding Report:

- “The undertaking considered in this finding includes the proposed issuance of commercial or research leases within the five New York Bight WEAs [Wind Energy Areas] and granting of ROWs [rights-of-way] and RUEs [rights-of-use] in the region.”
- “Site characterization activities include both high-resolution geophysical (HGR) surveys, which do not involve seafloor-disturbing activities, and geotechnical investigations, which may include seafloor-disturbing activities.”
- “Geotechnical testing or sampling involves seafloor-disturbing activities and therefore has the potential to cause effects on historic properties.”
- “The undertaking does not, however, include cable installation or connection to shore-based facilities, installation of site assessment equipment, or consideration of commercial-scale wind energy facilities.”
- “The APE [area of potential effects] for this undertaking is defined as the depth and breadth of the seabed that could potentially be affected by seafloor/ground-disturbing activities associated with site characterization activities.”
- “Site characterization activities could occur within the extent of the New York Bight WEAs and along corridors that extend from the WEAs to the onshore energy grid, and additionally within the extent of regional backbone transmission systems that may be proposed.”

- “For the purposes of this undertaking, BOEM estimates that the APE associated with cable site characterization activities would occur within discrete corridors in the region between shore and the New York Bight WEAs as far south as a line drawn between the southwestern corner of the Hudson South WEAs to Cape May, New Jersey and as far north as a line drawn between the northeastern corner of the Fairways North WEA at the eastern edge of Narragansett Bay.”

Based on the information that we have received, we concur with the finding of No Historic Properties Affected for this limited undertaking.

These comments are provided in accordance with Section 106 of the National Historic Preservation Act. If you have any questions, please contact me or RIHPHC Project Review Coordinator Elizabeth Totten at elizabeth.totten@preservation.ri.gov.

Sincerely,



Jeffrey D. Emidy
Interim Executive Director
Interim State Historic Preservation Officer